The Exoplanet Handbook

Second Edition

Michael Perryman

Max–Planck–Institut für Astronomie, Heidelberg
Zentrum für Astronomie der Universität Heidelberg
University College Dublin

Appendixes C–F

Updated to the exoplanet content at the NASA Exoplanet Archive,
and associated primary references, as of the end of 2018

Version 1, 22 January 2019

Note that:
(1) host star names (bold) are hyperlinked to the NASA Exoplanet Archive 'Planet Host Overview' page
(2) citations are hyperlinked to the relevant Reference page
(3) each ⊳ symbol following the citation is hyperlinked to the associated SAO/NASA ADS Abstract page
(4) reference keys are not (necessarily) congruent with those given in the published Second Edition

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Appendix C. Radial velocity exoplanets

This (updated) appendix includes objects appearing in the online NASA Exoplanet Archive as of 31 December 2018, along with a small number of other candidates or retracted systems. Objects indicated * are additions since publication of the Second Edition (itself complete to end 2017).

These notes list some key attributes of the system to underline its particular interest, give some indication of the attention the object has received (through the length of the bibliography), and provide a concise note on each paper to serve as a guide to the literature and a narrative of the progress in understanding the system. It makes no claim for completeness, and CDS–SIMBAD should be consulted for more details.

It includes only cross-identifications which are relevant in context, e.g., as used in the early discovery literature. CDS–SIMBAD or the NASA Exoplanet Archive should be consulted for other aliases. If a different alias was used in the NASA archive, this is explicitly noted.

The electronic version includes three classes of hyperlink: the object identifier (in bold) is linked to the host star page of the NASA Exoplanet Archive (it will be invalid if their syntax changes); each citation is linked to the bibliography; and the ⊳ icon following the citation links to the relevant ADS page.

Radial velocity planets which transit: A small number of planets discovered through radial velocity measurements have been subsequently found to transit (such as HD 189733 and HD 209458). Since the majority of the corresponding literature relates to the transits, a cross-reference is made to the appendix on transiting planets, where the full bibliography is listed.

Transiting systems with radial velocity discoveries: Similarly, for systems discovered through transit photometry, where other planets were subsequently discovered by radial velocity measurements, the radial velocity discoveries are noted explicitly here, but also cross-referenced to the more complete bibliography in the appendix on transiting planets.

Notes on individual systems

Constellation identifiers

υ **And** ≡ HR 458; 3-planet system with planets c and d in eccentric orbits; planet e unconfirmed; discovery of planet b, and evidence for planet c (Butler et al., 1997)⊳ stellar properties (Baliunas et al., 1997)⊳ stellar properties (Fuhrmann et al., 1998)⊳ discovery of planets c and d (Butler et al., 1999)⊳ line profile variations (François et al., 1999)⊳ orbit stability in the 3-planet system (Laughlin & Adams, 1999)⊳ mass limits from Hipparcos astrometry (Mazeh et al., 1999)⊳ **2000:** search for radio emission (Bastian et al., 2000)⊳ models of the spacing of planetary systems (Laskar, 2000)⊳ orbit stability (Rivera & Lissauer, 2000)⊳ orbit stability (Stepinski et al., 2000)⊳ tidal constraints on mass (Trilling, 2000)⊳ orbit stability and planet eccentricities (Barnes & Quinn, 2001)⊳ apsidal alignment in planets c and d (Chiang et al., 2001)⊳ orbit stability (Ito & Miyama, 2001)⊳ orbit stability (Jiang & Ip, 2001)⊳ orbit stability and planet inclinations (Lissauer & Rivera, 2001)⊳ eccentricity excitation and apsidal resonance capture (Chiang & Murray, 2002)⊳ limits on reflected light from planet b (Collier Cameron et al., 2002)⊳ imaging of co-moving stellar companion (Lowrance et al., 2002)⊳ tidal, spin, and dynamical evolution (Mardling & Lin, 2002)⊳ expectation of apsidal oscillation (Michtchenko & Malhotra, 2004)⊳ ELODIE observations (Naef et al., 2004)⊳ **2005:** planet–planet scattering and coupled orbit evolution (Ford et al., 2005)⊳ dynamical survival of planet b (Nagasawa & Lin, 2005)⊳ orbit dependence of chromospheric activity and magnetic interaction (Shkolnik et al., 2005)⊳ phase-dependent infrared brightness variations from Spitzer (Harrington et al., 2006)⊳ orbit stability (Michtchenko et al., 2006)⊳ magnetic communication in hot Jupiters (Preusse et al., 2006)⊳ proximity to 5:1 resonance (Libert & Henrard, 2007)⊳ orbit stability (Rivera & Haghighipour, 2007)⊳ enhanced stellar magnetic activity due to close-in planet (Lanza, 2008)⊳ consistency with a stable Kozai-resonant state (Libert & Tsiganis, 2009)⊳ **2010:** phase-dependent infrared brightness variations from Spitzer, and atmospheric circulation (Crossfield et al., 2010)⊳ 30° relative inclination of planets c and d from HST–FGS (McArthur et al., 2010)⊳ origin of the mutually inclined orbits of planets c and d (Barnes et al., 2011b)⊳ planet e inferred from Keplerian fit (Curiel et al., 2011)⊳ magnetic interaction with host star (Kopp et al., 2011)⊳ limits on X-ray variability due to star–planet interaction (Poppenhaeger et al., 2011)⊳ improved mass limits from Hipparcos astrometry (Reffert & Quirrenbach, 2011)⊳ Bayesian modeling (Tuomi et al., 2011)⊳ stellar parameters from interferometry with CHARA–VEGA (Ligi et al., 2012)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳ **2015:** 3d dynamical stability analysis (Deitrick et al., 2015)⊳ detection of H_2O-vapour from planet radial velocity from Keck–NIRSPEC (Piskorz et al., 2017)⊳ hot Jupiter migration attributed to disk interactions (Wang et al., 2017a)⊳

14 And discovery (Sato et al., 2008b)⊳ interferometry (Ligi et al., 2012)⊳

ξ **Aql** discovery (Sato et al., 2008a)⊳

91 Aqr ≡ HD 219449; discovery (Mitchell et al., 2013)⊳

μ **Ara** ≡ HD 160691 (as listed in NASA); 4-planet system; discovery of planet b (Butler et al., 2001)⊳ evidence for planet c (Jones et al., 2002a)⊳ dynamical constraints on planet c (Kiseleva-Eggleton et al., 2002)⊳ dynamical stability (Bois et al., 2003)⊳ dynamical stability (Goździewski et al., 2003)⊳ discovery/confirmation of planet c (McCarthy et al., 2004)⊳ discovery/confirmation of planet c (Santos et al., 2004)⊳ asteroseismology (Bouchy et al., 2005a)⊳ asteroseismology (Bazot et al., 2005)⊳ dynamical constraints on the 2-planet system (Goździewski et al., 2005)⊳ orbital stability (Goździewski et al., 2007)⊳ discovery of planets d and e (Pepe et al., 2007)⊳ dynamical constraints on the 4-planet system (Short et al., 2008)⊳ asteroseismology (Soriano & Vauclair, 2008)⊳ asteroseismology (Soriano & Vauclair, 2010)⊳ effects of oscillation and stellar granulation (Dumusque et al., 2011b)⊳ mass constraints from Hipparcos astrometry (Reffert & Quirrenbach, 2011)⊳ habitability of hypothetical exomoon (Hinkel & Kane, 2013a)⊳ gravitational quantisation of orbits (Geroyannis, 2015)⊳

α **Ari** discovery and unstable acoustic pulsations (Lee et al., 2011a)⊳ see also earlier observations (Kim et al., 2006)⊳

30 Ari B see transiting systems

τ **Boo** ≡ HR 5185 ≡ HD 120136; discovery (Butler et al., 1997)⊳ stellar properties (Baliunas et al., 1997)⊳ line profiles (Brown et al., 1998b)⊳

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line profiles (Brown et al., 1998a)⊳ stellar properties (Fuhrmann et al., 1998)⊳ limits on reflected light (Charbonneau et al., 1999)⊳ claimed detection of reflected light (Collier Cameron et al., 1999)⊳ search for radio emission (Bastian et al., 2000)⊳ limits on CH_4 (Wiedemann et al., 2001)⊳ search for stellar companions (Patience et al., 2002)⊳ limits on reflected light (Leigh et al., 2003a)⊳ dynamical stability (Musielak et al., 2005)⊳ stellar magnetic field and spin–orbit synchronisation (Catala et al., 2007)⊳ search for radio emission (Lazio & Farrell, 2007)⊳ stellar magnetic field and differential rotation (Donati et al., 2008)⊳ enhanced stellar magnetic activity due to close-in planet (Lanza, 2008)⊳ stellar variability induced by planet orbit (Walker et al., 2008)⊳ limits on polarisation variability (Fares et al., 2009)⊳ polarisation (Lucas et al., 2009)⊳ magnetic field and radio emission (Reiners & Christensen, 2010)⊳ CO absorption and orbit inclination (Brogi et al., 2012b)⊳ X-ray studies (Poppenhaeger et al., 2012b)⊳ stellar variability induced by planet orbit (Ruban & Arkharov, 2012)⊳ CO absorption and orbit inclination (Rodler et al., 2012)⊳ search for radio emission (Stroe et al., 2012)⊳ models of stellar wind and planetary radio emission (Vidotto et al., 2012)⊳ stellar magnetic field topology (Fares et al., 2013)⊳ search for radio emission (Hallinan et al., 2013)⊳ CO absorption and orbit inclination (Rodler et al., 2013b)⊳ detection of H_2O from high-resolution L-band spectroscopy (Lockwood et al., 2014)⊳ magnetic activity and asteroseismology from HARPS–N (Borsa et al., 2015)⊳ time scales of radio emission variability (See et al., 2015)⊳ evolving magnetic topology (Mengel et al., 2016)⊳ temporal variability of the stellar wind (Nicholson et al., 2016)⊳ four-month stellar chromospheric and coronal activity cycle (Mittag et al., 2017)⊳ sub-year magnetic chromospheric activity cycle and activity phase jumps (Schmitt & Mittag, 2017)⊳ orbit orientation from rotation period and magnetic field (Bychkov et al., 2018)⊳ limits on reflected light from UVES, ESPaDOnS, NARVAL–UES and HARPS-N spectroscopy 1998–2013 (Hoeijmakers et al., 2018c)⊳ radio emission from supermassive hot Jupiters via cyclotron maser instability (Weber et al., 2018)⊳

24 Boo* short-period planet around an evolved star; discovery (Takarada et al., 2018)⊳

α Cen A/B not in NASA archive; unconfirmed Earth-mass planet in 3-d orbit around component B of a close stellar binary (Dumusque et al., 2012)⊳ feasibility of probing by radar (Rzhiga, 1985)⊳ as an example of the elliptic restricted problem (Benest, 1988)⊳ Li abundance (King et al., 1997b)⊳ ^{9}Be abundance of stellar components (King et al., 1997a)⊳ analysis of planetary stability (Wiegert & Holman, 1997)⊳ **2000:** theoretical stellar models (Guenther & Demarque, 2000)⊳ gravitational lenses (Maccone, 2000)⊳ planetary limits from ESO Coudé search (Endl et al., 2001)⊳ as an example of formation of terrestrial planets in close binary systems (Barbieri et al., 2002)⊳ terrestrial planet formation (Quintana et al., 2002)⊳ asteroseismology (Thévenin et al., 2002)⊳ asteroseismology (Thoul et al., 2003)⊳ oscillation frequencies and mode lifetimes (Bedding et al., 2004)⊳ theoretical stellar models including seismology (Eggenberger et al., 2004)⊳ **2005:** solar-like oscillations of host star (Kjeldsen et al., 2005)⊳ seismology (Miglio & Montalbán, 2005)⊳ formation and detectability of terrestrial planets (Guedes et al., 2008)⊳ difficulties of accretion (Thébault et al., 2008)⊳ planet formation in habitable zone (Thébault et al., 2009)⊳ **2010:** planetesimal accretion in binaries (Xie et al., 2010b)⊳ role of snowball growth (Xie et al., 2010a)⊳ planetary detection limits with stellar noise (Dumusque et al., 2011b)⊳ Bayesian analysis of stellar parameters (Bazot et al., 2012)⊳ discovery of planet b (Dumusque et al., 2012)⊳ oscillation in the habitable zone (Forgan, 2012)⊳ models of circumstellar disk (Müller & Kley, 2012)⊳ dynamical stability of planets (Popova & Shevchenko, 2012)⊳ detectability with ELTs (Crossfield, 2013)⊳ habitable zone (Eggl et al., 2013)⊳ effects of noise in the radial velocity signal (Hatzes, 2013b)⊳ suggestion of planet around α Cen A from abundance analysis (Hinkel & Kane, 2013b)⊳ habitable zone (Kaltenegger & Haghighipour, 2013)⊳ detectability of polarisation with SPHERE–ZIMPOL (Milli et al., 2013)⊳ planet formation in small separation binaries (Rafikov, 2013)⊳ dynamical stability of terrestrial planets (Andrade-Ines & Michtchenko, 2014)⊳ probing by interstellar radar (Scheffer, 2014)⊳ **2015:** improved accuracy from scattered light analysis (Bergmann et al., 2015)⊳ HST transit search (Demory et al., 2015)⊳ radial velocities from Mt John–HERCULES (Endl et al., 2015)⊳ planet mass from dynamical stability (Plavchan et al., 2015)⊳ planet formation in stellar binaries (Rafikov & Silsbee, 2015)⊳ Milankovitch cycles in eccentricity, obliquity, and precession (Forgan, 2016)⊳ simulation of Gaia astrometric data for α Cen A (Huang & Ji, 2016)⊳ possible circumbinary configurations (Popova & Shevchenko, 2016)⊳ long-term stability (Quarles & Lissauer, 2016)⊳ planetary signal attributed to window function (Rajpaul et al., 2016)⊳ effects of Proxima Cen on planet formation (Worth & Sigurdsson, 2016)⊳ imaging search from the VISTA–VVV near-infrared survey (Beamín et al., 2017)⊳ stability regions for S-type planets in Lidov–Kozai resonance (Giuppone & Correia, 2017)⊳ deceleration of interstellar photon sails into bound orbits (Heller & Hippke, 2017)⊳ astrometric planet detection with Gaia around α Cen A (Huang & Ji, 2017)⊳ orbit of Proxima Cen (Kervella et al., 2017)⊳ capture rate of interstellar objects via 3-body gravitational interactions (Lingam & Loeb, 2018)⊳ long-term stability of circumstellar and circumbinary orbits (Quarles et al., 2018)⊳ long-term stability of tightly packed multi-planet systems in prograde, coplanar, circumstellar orbits (Quarles & Lissauer, 2018)⊳ planet constraints from HARPS radial velocity measurements over 10 years (Zhao et al., 2018a)⊳

Proxima Cen discovery (Anglada-Escudé et al., 2016a)⊳ earlier considerations of habitable zone (Endl & Kürster, 2008)⊳ **2016:** possible structure and composition (Brugger et al., 2016)⊳ space weather (Garraffo et al., 2016)⊳ prospects for characterising atmosphere (Kreidberg & Loeb, 2016)⊳ habitability: irradiation, rotation and volatile inventory (Ribas et al., 2016)⊳ habitability: climates and observability (Turbet et al., 2016)⊳ effects on planet formation in α Cen (Worth & Sigurdsson, 2016)⊳ **2017:** ALMA discovery of dust belts at 1–4 au, with a compact emission source (Anglada et al., 2017)⊳ simulations of resolved surface imaging from reflected light (Berdyugina & Kuhn, 2017)⊳ probabilistic constraints on mass, radius and composition (Bixel & Apai, 2017)⊳ climate simulations using the UK Meteorological Office Unified Model (Boutle et al., 2017)⊳ orbit eccentricity from radial velocity data of $e = 0.25$ (Brown, 2017)⊳ constraint on super-Earth interiors from stellar abundances (Brugger et al., 2017)⊳ predicted radio detectability of 100 mJy at 0.02–3 MHz (Burkhart & Loeb, 2017)⊳ predicted system multiplicity as a function of formation scenario (Coleman et al., 2017)⊳ stellar noise in the radial velocity data (Damasso & Del Sordo, 2017)⊳ habitability dependence on ion escape rates and intrinsic magnetic dipole field (Dong et al., 2017)⊳ atmospheric escape time scale due to high stellar extreme ultraviolet flux (Garcia-Sage et al., 2017)⊳ variable incident flux due to obliquity and eccentricity (Kane & Torres, 2017)⊳ orbit and habitability as a function of orbit inclination (Kane et al., 2017a)⊳ orbital motion with respect to α Cen (Kervella et al., 2017)⊳ no conclusive evidence for transits in MOST photometry (Kipping et al., 2017)⊳ reduced diversity of life around M dwarfs from atmospheric erosion (Lingam & Loeb, 2017b)⊳ planet detection by coupling VLT–SPHERE imager with ESPRESSO spectrograph (Lovis et al., 2017)⊳ characterisation through detection of auroral emission (Luger et al., 2017b)⊳ upper limits on mass and radius from VLT–SPHERE imaging (Mesa et al., 2017)⊳ stellar X-ray to mid-infrared spectral energy distribution, with evidence for warm dust (Ribas et al., 2017)⊳ atmospheric detection prospects with JWST–MIRI (Snellen et al., 2017)⊳ hydrodynamic thermal atmospheric escape (Zahnle & Catling, 2017)⊳ **2018:** multi-year search for transits (Blank et al., 2018)⊳ stratospheric circulation and O_3 production under tidally locking (Carone et al., 2018)⊳ bright superflare observed with Evryscope (Howard et al., 2018)⊳ transit search and tentative detection with BSST at Antarctica, and evidence for outer planet (Liu et al., 2018b)⊳ habitability and observational discriminants (Meadows et al., 2018)⊳ habitability: estimates of stellar wind velocity, cosmic ray fluxes, and flares (Sadovski et al., 2018)⊳ exocomets and their importance for water transport (Schwarz et al., 2018)⊳ predicted exoplanet-induced radio emission (Turnpenney et al., 2018)⊳ magnetic dynamos predicted from formation models (Zuluaga & Bustamante, 2018)⊳ gravitational mass of host star from microlensing measured with VLT–SPHERE (Zurlo et al., 2018)⊳

γ Cep proposed as a 2.7-yr period exoplanet candidate in binary system (Campbell et al., 1988)⊳ data over 11 yr give $P = 2.52$ yr (Walker et al., 1992)⊳ dynamical stability (Dvorak et al., 2003a)⊳ confirmation (Hatzes et al., 2003)⊳ dynamical stability (Dvorak et al., 2004)⊳ dynamical stability (Haghighipour, 2004)⊳ formation (Thébault et al., 2004)⊳ dynamical stability of habitable zone (Haghighipour, 2006)⊳ dynamical stability of habitable zone (Verrier & Evans, 2006)⊳ imaging of binary companion γ Cep B (Neuhäuser et al., 2007)⊳ 3d orbit of stellar binary (Torres, 2007a)⊳ disk truncation and planet formation (Jang-Condell et al., 2008)⊳ planet formation in presence of disk perturbations from secondary (Kley & Nelson, 2008)⊳ planetesimal dynamics due to gas drag from an eccentric precessing disk (Beaugé et al., 2010)⊳ planetesimal collisions (Paardekooper & Leinhardt,

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2010)▹ secular dynamics of planetesimals (Giuppone et al., 2011)▹ circumstellar disks in binary systems (Müller & Kley, 2012)▹ orbit properties resulting from stellar scattering (Martí & Beaugé, 2012)▹ planet formation in small separation binaries (Rafikov, 2013)▹ application of chaos indicators (Satyal et al., 2013)▹ habitable terrestrial planets in tight binary systems (Funk et al., 2015)▹ planet formation in stellar binaries (Rafikov & Silsbee, 2015)▹

τ **Cet** ≡ HD 10700; 4-planet system (planets e, f, g, h listed in NASA); massive debris disk (Greaves et al., 2004)▹ detection limits from HARPS (Dumusque et al., 2011b)▹ companion search with VLTI–PIONIER (Absil et al., 2011)▹ proposed 5-planet system (Tuomi et al., 2013b)▹ high-contrast imaging characterisation (Crossfield, 2013)▹ Herschel observations of the debris disk (Lawler et al., 2014)▹ effect of chemical composition on terrestrial planets (Pagano et al., 2015)▹ ALMA debris disk observations (MacGregor et al., 2016)▹ four planet candidates from HARPS and Keck data after removal of wavelength-dependent noise (Feng et al., 2017c)▹

75 Cet discovery (Sato et al., 2012b)▹

81 Cet discovery (Sato et al., 2008b)▹

YZ Cet 3-planet system, with planets of $0.002-0.003 M_J$ ($0.6-0.9 M_\oplus$, $P_{orb} = 2-5$ d) orbiting a $0.13 M_\odot$ ($d = 3.6$ pc) M dwarf; discovery (Astudillo-Defru et al., 2017a)▹ ultra-short period for planet c implied by aliasing (Robertson, 2018)▹

7 CMa discovery (Wittenmyer et al., 2011)▹

β **Cnc** discovery (Lee et al., 2014a)▹

55 Cnc see transiting systems

11 Com ≡ HD 107383; discovery (Liu et al., 2008b)▹ stellar diameter and temperature (von Braun et al., 2014)▹

ϵ **CrB** discovery (Lee et al., 2012a)▹

κ **CrB** discovery (Johnson et al., 2008a)▹ interferometric observations with NPOI (Baines et al., 2013)▹ spatially-resolved dust belts and evidence for a second planet (Bonsor et al., 2013)▹

o **CrB** discovery (Sato et al., 2012b)▹

ρ **CrB** 2-planet system; discovery of planet b (Noyes et al., 1997)▹ stellar properties (Fuhrmann et al., 1998)▹ circumstellar dust disk (Trilling et al., 2000)▹ photometric study (Gatewood et al., 2001)▹ limit on 1.6 μm flux ratio (Bender et al., 2005)▹ stellar diameter and temperature (von Braun et al., 2014)▹ discovery of planet c (Fulton et al., 2016)▹

16 Cyg B high eccentricity planet ($e = 0.63$) around component B of a stellar binary; discovery (Cochran et al., 1997)▹ origin of high eccentricity (Holman et al., 1997)▹ Li abundance (King et al., 1997b)▹ origin of high eccentricity (Mazeh et al., 1997)▹ stellar parameters (Fuhrmann et al., 1998)▹ Be abundance (Garcia Lopez & Perez de Taoro, 1998)▹ origin of high eccentricity (Hauser & Marcy, 1999)▹ Be and Fe abundances (Deliyannis et al., 2000)▹ Be and Fe abundances (Laws & Gonzalez, 2001)▹ stellar companions from imaging (Patience et al., 2002)▹ chemical abundances (Ramírez et al., 2011)▹ abundances of 16 Cyg A and B and planet formation (Schuler et al., 2011)▹ asteroseismology of 16 Cyg A and B from Kepler (Metcalfe et al., 2012)▹ orbital analysis (Plávalová & Solovaya, 2013)▹ rocky core inferred from spectroscopic abundances (Tucci Maia et al., 2014)▹ asteroseismic inference on rotation, gyrochronology and system dynamics (Davies et al., 2015)▹ asteroseismology from full Kepler data (Metcalfe et al., 2015)▹ asteroseismology compared with Kepler Asteroseismic Legacy project (Roxburgh, 2017)▹

18 Del discovery (Sato et al., 2008a)▹ constraints on co-moving companion from Subaru–HiCIAO (Ryu et al., 2016)▹

ψ **Dra B** discovery (Endl et al., 2016)▹

42 Dra discovery (Döllinger et al., 2009a)▹ interferometry of host star (Ligi et al., 2012)▹

ϵ **Eri** dust ring (Greaves et al., 1998)▹ discovery, and magnetic activity cycles (Hatzes et al., 2000)▹ morphology of dust ring due to planet (Quillen & Thorndike, 2002)▹ adaptive optics imaging of dust ring (Macintosh et al., 2003)▹ structure of dust disk due to planet and comets (Moran et al., 2004)▹ optical studies of disk from HST–STIS (Proffitt et al., 2004)▹ circumstellar dust disk from SEST–SIMBA (Schütz et al., 2004)▹ debris disk structure (Greaves et al., 2005)▹ orbit from radial velocity and HST astrometry (Benedict et al., 2006)▹ differential rotation of host star from MOST and star spots (Croll et al., 2006)▹ rotation of the debris disk from SCUBA (Poulton et al., 2006)▹ null results from optical imaging (Janson et al., 2007)▹ optical imaging (Heinze et al., 2008)▹ optical imaging (Janson et al., 2008)▹ structure of disk due to planet (Brogi et al., 2009)▹ disk structure (Backman et al., 2009)▹ null results from imaging with Spitzer–IRAC (Marengo et al., 2009)▹ H_2O and silicates from disk spectral modelling (Reidemeister et al., 2011)▹ angular diameter of host star from NOI (Baines & Armstrong, 2012)▹ candidate for radio emission generated by magnetosphere–ionosphere coupling (Nichols, 2012)▹ magnetic activity cycle (Metcalfe et al., 2013)▹ extreme ultraviolet-driven mass-loss (Chadney et al., 2015)▹ detection of exomoons from Io-type radio emission (Noyola et al., 2014)▹ high-contrast imaging with Spitzer (Janson et al., 2015)▹ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▹ unsuccessful sounding rocket coronagraphic imaging mission, PICTURE–B (Chakrabarti et al., 2016)▹ spectroscopic and photometric stellar activity study (Giguere et al., 2016)▹ high-contrast imaging (Mizuki et al., 2016)▹ apocentre glow in eccentric debris disks (Pan et al., 2016)▹ northern arc of debris disk observed by ALMA has a width of 11–13 au (Booth et al., 2017)▹ collisional parameters of planetesimal belt (Marzari & Dell'Oro, 2017)▹ inner 25 au disk resolved by SOFIA (Su et al., 2017a)▹ implications of radio emission observed by VLA at 2–4 GHz, 4–8 GHz, 8–12 GHz and 12–18 GHz (Bastian et al., 2018)▹ detection of H_2O-maser emission (Cosmovici & Pogrebenko, 2018)▹

τ **Gem** discovery (Mitchell et al., 2013)▹

14 Her ≡ HD 145675 ≡ GJ 614; host star properties (Gonzalez et al., 1999)▹ discovery of planet b (Butler et al., 2003)▹ dynamical stability (Asghari et al., 2004)▹ evidence for planet c (Naef et al., 2004)▹ orbit stability (Goździewski et al., 2006)▹ discovery/confirmation of planet c (Wittenmyer et al., 2007)▹ dynamical studies (Goździewski et al., 2008b)▹ imaging constraints on planet c (Rodigas et al., 2011)▹ stellar diameter and temperature (von Braun et al., 2014)▹

ι **Hor** see HR 810

γ^1 **Leo** discovery (Han et al., 2010)▹

μ **Leo** discovery (Lee et al., 2014a)▹

γ **Lib*** 2-planet system in a possible 7:3 mean-motion resonance; discovery (Takarada et al., 2018)▹

6 Lyn discovery (Sato et al., 2008b)▹

ν **Oct** not in NASA archive; binary star ($P = 1050$ d, $a = 2.6$ au) with a suggested but unconfirmed retrograde circumprimary planet ($P =$ 415 d); spectroscopic orbit from Mt John–HERCULES (Ramm et al., 2009)▹ stability analysis (Eberle & Cuntz, 2010)▹ attributed to precession in a tertiary system (Morais & Correia, 2012)▹ confirmed stability of retrograde orbit (Quarles et al., 2012a)▹ confirmed stability of retrograde orbit and problems of origin (Goździewski et al., 2013)▹ star spots and pulsations considered unlikely causes (Ramm, 2015)▹ supporting planetary evidence from 2009–13 monitoring (Ramm et al., 2016)▹

ν **Oph** 2-planet system; Lick–CAT pre-discovery monitoring (Quirrenbach et al., 2011)▹ discovery of planets b and c (Sato et al., 2012b)▹ Bayesian analysis (Brewer & Donovan, 2015)▹

51 Peg first generally-accepted planet discovered around a main-sequence star; discovery (Mayor & Queloz, 1995)▹ orbit explained by inward migration (Lin et al., 1996)▹ distance and mass limits from Hipparcos astrometry (Perryman et al., 1996)▹ low X-ray luminosity supports planet hypothesis (Pravdo et al., 1996)▹ stellar parameters (Fuhrmann et al., 1997)▹ non-radial oscillations considered to exclude the planet hypothesis (Gray & Hatzes, 1997)▹ non-radial oscillations considered to exclude the planet hypothesis (Gray, 1997)▹ search for spectral-line shape variations (Hatzes et al., 1997)▹ further radial velocity measures and support for planet hypothesis (Marcy et al., 1997)▹ consideration of tidally-excited oscillations (Willems et al., 1997)▹ non-radial oscillations excluded (Brown et al., 1998b)▹ non-radial oscillations excluded (Brown et al., 1998a)▹ non-radial oscillations excluded (Gray, 1998)▹ non-radial oscillations excluded (Hatzes et al., 1998b)▹ non-radial oscillations excluded (Hatzes et al., 1998a)▹ non-radial oscillations excluded (François et al., 1999)▹ search for radio emission (Bastian et al., 2000)▹ transit constraints (Bundy & Marcy, 2000)▹ infrared constraints on transits from ISO (Rauer et al., 2000)▹ tidal constraints on mass (Trilling, 2000)▹ atmospheric modeling and tidal effects (Guillot & Showman, 2002)▹ atmospheric circulation and tides (Showman & Guillot, 2002)▹ limits on co-moving companions (Greaves, 2006)▹ limits on co-moving companions (Mamajek, 2010)▹ discovery retrospective (Mayor & Queloz, 2012)▹ photometric microvariability attributed to orbit perturbations (Ruban & Arkharov, 2012)▹ limits from 2-yr BVRI polarimetric monitoring (Antonyuk et al., 2013)⊳ possible molecular absorption from VLT–CRIRES (Brogi et al., 2013)⊳ simulated spectroscopic direct detection of reflected light (Martins et al., 2013)⊳ discovery retrospective (Cenadelli & Bernagozzi, 2015)⊳ marginal spectroscopic direct detection of reflected light (Martins et al., 2015)⊳ reflected light not explained by ring system (Santos et al., 2015b)⊳ discovery of atmospheric H_2O at high-spectral resolution with VLT–CRIRES (Birkby et al., 2017)⊳

ω **Ser** discovery (Sato et al., 2013a)⊳

24 Sex 2-planet system; discovery of planets b and c (Johnson et al., 2011b)⊳ ages of resonance systems (Koriski & Zucker, 2011)⊳ dynamical analysis (Wittenmyer et al., 2012a)⊳ lucky imaging of host star (Ginski et al., 2012)⊳ orbital evolution of a pair of giant planets in mean motion resonance (André & Papaloizou, 2016)⊳

α **Tau** Aldeberan; discovery (Hatzes et al., 2015)⊳ long-period radial velocity variations previously noted (Hatzes & Cochran, 1993)⊳

ϵ **Tau** first open cluster planet (Hyades); discovery (Sato et al., 2007)⊳

CI Tau not in NASA archive; 2 Myr old classical T Tauri star with a protoplanetary disk; claimed discovery (Johns-Krull et al., 2016a)⊳ eccentricity ($e = 0.3$) excited by the disk or 2-planet scattering (Rosotti et al., 2017)⊳ pulsed accretion (Biddle et al., 2018)⊳

V830 Tau evidence for hot Jupiter (Donati et al., 2015)⊳ variable stellar radio emission (Bower et al., 2016)⊳ spectropolarimetric and photometric monitoring (Donati et al., 2017)⊳ predicted radio emission from planet and stellar wind (Vidotto & Donati, 2017)⊳ upper limits on radio emission from GMRT (Lynch et al., 2018)⊳

o **UMa** discovery of planet b, and evidence for planet c (Sato et al., 2012b)⊳

4 UMa discovery (Döllinger et al., 2007)⊳

47 UMa 3-planet system; discovery of planet b (Butler & Marcy, 1996)⊳ distance and mass limits from Hipparcos astrometry (Perryman et al., 1996)⊳ stellar parameters (Fuhrmann et al., 1997)⊳ search for radio emission (Bastian et al., 2000)⊳ discovery of planet c (Fischer et al., 2002b)⊳ orbit stability and the habitable zone (Goździewski, 2002)⊳ orbit stability (Jones & Sleep, 2002)⊳ dynamical analysis (Laughlin et al., 2002)⊳ possibility of Earth-like habitable planets (Cuntz et al., 2003)⊳ habitable zone (Franck et al., 2003)⊳ apsidal alignment and locking (Ji et al., 2003c)⊳ orbit stability and habitable zone (Asghari et al., 2004)⊳ new radial velocities (Naef et al., 2004)⊳ similarity with solar system (Ji et al., 2005)⊳ orbit stability (Rivera & Haghighipour, 2007)⊳ long-period orbit fitting (Wittenmyer et al., 2007)⊳ evidence for planet d (Gregory & Fischer, 2010)⊳ Bayesian analysis (Feroz et al., 2011b)⊳ mass constraints from Hipparcos (Reffert & Quirrenbach, 2011)⊳ exocomets and water transport (Cuntz et al., 2018)⊳

β **UMi** discovery (Lee et al., 2014a)⊳ constraints on radio emission from LOFAR (O'Gorman et al., 2018)⊳

8 UMi discovery (Lee et al., 2015a)⊳

11 UMi discovery (Döllinger et al., 2009b)⊳

61 Vir 3-planet system; discovery of planets b, c, d (Vogt et al., 2010b)⊳ inclination constraints from tidal dissipation models (Batygin & Laughlin, 2011)⊳ aligned major axes without tidal evolution (Greenberg & van Laerhoven, 2012)⊳ possible radio detection with GMRT (Sirothia et al., 2014)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳ Kuiper belt structure around nearby super-Earth hosts (Kennedy et al., 2015)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳ dynamical constraints on additional planets (Read & Wyatt, 2016)⊳ resolved 0.86-mm debris observations with ALMA (Marino et al., 2017)⊳ exospheric Na escape due to stellar wind sputtering and micrometeorite impacts (Yoneda et al., 2017)⊳

70 Vir discovery (Marcy & Butler, 1996)⊳ distance and mass limits from Hipparcos astrometry (Perryman et al., 1996)⊳ search for radio emission (Bastian et al., 2000)⊳ confirmation of orbit (Naef et al., 2004)⊳ characterisation from 59 new Keck–HIRES data with 169 previous from ELODIE, Hamilton, and HIRES (Kane et al., 2015b)⊳

Star names

Kapteyn's star 1-planet system in NASA (planet c); discovery of planets b and c (Anglada-Escudé et al., 2014)⊳ stellar activity as explanation for planet b (Robertson et al., 2015c)⊳ rotation and X-ray and ultraviolet properties of host star (Guinan et al., 2016)⊳ no activity correlation in radial velocities (Anglada-Escudé et al., 2016b)⊳

Lalande 21185 not in NASA archive; candidate planet suggested (Butler et al., 2017)⊳ detection of H_2O-maser emission (Cosmovici & Pogrebenko, 2018)⊳

Ross 128 ≡ GJ 447; nearby star (3.4 pc); discovery (Bonfils et al., 2018b)⊳ stellar and planetary characterisation from APOGEE spectra (Souto et al., 2018)⊳

Wolf 1061 ≡ GJ 628; 3-planet system; discovery (Wright et al., 2016a)⊳ further radial velocity observations (Astudillo-Defru et al., 2017b)⊳ stellar radius from CHARA, stellar rotation from 7 yr of photometry, and no indication of transits (Kane et al., 2017b)⊳

BD

BD–06 1339 2-planet system; discovery of planets b and c (Lo Curto et al., 2013)⊳

BD–08 2823 2-planet system; discovery of planets b and c (Hébrard et al., 2010c)⊳

BD–10 3166 discovery and transit search (Butler et al., 2000)⊳

BD–11 4672 discovery (Moutou et al., 2015)⊳

BD–13 2130 discovery (Lovis & Mayor, 2007)⊳

BD–17 63 discovery (Moutou et al., 2009b)⊳

BD+03 2562 discovery (Villaver et al., 2017)⊳

BD+14 4559 discovery (Niedzielski et al., 2009b)⊳ habitability of hypothetical exomoon (Hinkel & Kane, 2013a)⊳

BD+15 2375 discovery (Niedzielski et al., 2016a)⊳

BD+15 2940 planet orbiting at 0.5 au from K0 giant host, in engulfment zone; discovery (Nowak et al., 2013)⊳

BD+20 274 discovery (Gettel et al., 2012a)⊳

BD+20 1790 not in NASA archive; claimed discovery (Hernán-Obispo et al., 2010)⊳ CORALIE radial velocities imply variations are photospheric (Figueira et al., 2010)⊳ revised analysis supports planet interpretation (Hernán-Obispo et al., 2015)⊳ multi-band high resolution spectroscopy rules out planet explanation (Carleo et al., 2018)⊳

BD+20 2457 2-planet system; discovery of planets b and c (Niedzielski et al., 2009b)⊳ dynamical investigation (Horner et al., 2014)⊳

BD+48 738 discovery (Gettel et al., 2012b)⊳

BD+48 740* Li-rich giant reported as a potential planet host (Adamów et al., 2012)⊳ confirmation (Adamów et al., 2018)⊳

BD+49 828 discovery (Niedzielski et al., 2015b)⊳

CoRoT

CoRoT–7 c see transiting systems

CoRoT–20 c see transiting systems

GJ

GJ 15A not in NASA archive; claimed discovery (Howard et al., 2014)⊳ not confirmed by CARMENES (Trifonov et al., 2018a)⊳ 5 yr of HARPS–N and 15 yr of Keck–HIRES supports multi-planet interpretation (Pinamonti et al., 2018)⊳

GJ 86 discovery of planet b, and evidence for planet c (Queloz et al., 2000b)⊳ imaging of co-moving (white dwarf/brown dwarf) companion GJ 86 B (Els et al., 2001)⊳ orbit stability (Musielak et al., 2005)⊳ imaging (Mugrauer et al., 2005a)⊳ coronagraphic imaging resolves orbit motion of GJ 86 B (Lagrange et al., 2006)⊳ stellar multiplicity (Raghavan et al., 2006)⊳ observations with VLT–AMBER and MIDI (Matter et al., 2010)⊳ constraints from simultaneous optical/infrared monitoring (Crockett et al., 2012)⊳ imaging and white dwarf confirmation using HST–WFC3/STIS (Farihi et al., 2013)⊳ habitable terrestrial planets in tight binary systems (Funk et al., 2015)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

GJ 96* eccentric planet ($e = 0.44$) orbiting an M star; discovery (Hobson et al., 2018)⊳

GJ 163 3-planet system; discovery of planets b, c, d (Bonfils et al., 2013b)⊳ possible planet e (Tuomi & Anglada-Escudé, 2013)⊳ variable incident flux due to obliquity and eccentricity (Kane & Torres, 2017)⊳

GJ 176 see HD 285968

GJ 179 discovery (Howard et al., 2010)⊳

GJ 221 not in NASA archive; claimed but not confirmed; 2- or 3-planet system; discovery of planets b and c (Arriagada et al., 2013); discovery of planet d (Tuomi, 2014)

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GJ 273 2-planet system at 3.8 pc, with one in the habitable zone; discovery (Astudillo-Defru et al., 2017b)⊳

GJ 317 2-planet system; discovery, and evidence for planet c (Johnson et al., 2007a)⊳ mass limits from astrometry, and support for planet c (Anglada-Escudé et al., 2012b)⊳ astrometric search with RECONS (Lurie et al., 2014)⊳

GJ 328 discovery, and long-period activity cycle (Robertson et al., 2013)⊳

GJ 433 1- or 2- planet system (listed as 1-planet system in NASA); discovery of planets b and c (Delfosse et al., 2013)⊳ Bayesian analysis (Tuomi et al., 2014)⊳

GJ 436 see transiting systems

GJ 536 discovery (Suárez Mascareño et al., 2017a)⊳ confirmation from CARMENES (Trifonov et al., 2018a)⊳ host star age from kinematics and α-element enrichment (Veyette & Muirhead, 2018)⊳

GJ 581 3-planet system (with f, g, and possibly d subsequently questioned); M dwarf with hot Neptune (planet b), super-Earth in/near the habitable zone (c), an inner Earth-mass (e); discovery of planet b (Bonfils et al., 2005)⊳ transit constraints (López-Morales et al., 2006)⊳ possibility of habitable planets (Selsis et al., 2007)⊳ confirmation of planets c and d (Udry et al., 2007)⊳ planet c non-habitable, planet d tidally locked near outer habitability edge (von Bloh et al., 2007)⊳ 3-planet system chaotic but dynamically stable (Beust et al., 2008)⊳ discovery of inner Earth-mass planet e (Mayor et al., 2009a)⊳ stability of undetected low-mass habitable-zone planets between planets c and d (Zollinger & Armstrong, 2009)⊳ **2010:** habitability of planet d (von Paris et al., 2010)⊳ discovery of planet f and (habitable zone) planet g (Vogt et al., 2010a)⊳ habitability of planet d dependent on CO_2 content (Wordsworth et al., 2010)⊳ additional HARPS data does not confirm planets f and g (Forveille et al., 2011a)⊳ Bayesian analysis (Gregory, 2011)⊳ habitability of planet g (Heng & Vogt, 2011)⊳ habitability of planets c and d (Hu & Ding, 2011)⊳ model spectra of planet d (Kaltenegger et al., 2011)⊳ habitability of planet g (Pierrehumbert, 2011)⊳ tidal interactions in multi-planet systems (Papaloizou, 2011)⊳ Bayesian analysis does not confirm planets f and g (Tuomi, 2011)⊳ Bayesian modeling (Tuomi et al., 2011)⊳ habitability of planet g (von Bloh et al., 2011)⊳ atmospheric studies of habitability (von Paris et al., 2011b)⊳ astrophysical parameters and habitable zone (von Braun et al., 2011a)⊳ improved stellar parameters from interferometry, and habitability of planets d and g (von Paris et al., 2011a)⊳ habitability of planet d (Wordsworth et al., 2011)⊳ constraints on transits of planet e by MOST (Dragomir et al., 2012c)⊳ spatially-resolved debris disk from Herschel–PACS (Lestrade et al., 2012)⊳ dynamical evolution and spin-orbit resonances of planet d (Makarov et al., 2012)⊳ dynamical stability (Tadeu dos Santos et al., 2012)⊳ this conclusion contested (Vogt et al., 2012)⊳ red noise questions reality of planets f, g and possibly d (Baluev, 2013)⊳ 3d climate modeling of close-in land planets (Leconte et al., 2013)⊳ model atmosphere for planet g (Carone et al., 2014)⊳ ultraviolet radiation environment (France et al., 2013)⊳ debris disk model (Heng & Malik, 2013)⊳ HARPS and Keck–HIRES supports four planets (Hatzes, 2013a)⊳ influence of thermal evolution in the magnetic protection of terrestrial planets (Zuluaga et al., 2013)⊳ stability analysis of 4- and 5-planet systems (Joiner et al., 2014)⊳ astrometric search with RECONS (Lurie et al., 2014)⊳ debris disk radius and grain sizes from Herschel (Pawellek et al., 2014)⊳ planet d an artefact of stellar activity (Robertson et al., 2014)⊳ dynamical stability (Tóth & Nagy, 2014)⊳ **2015:** effects of activity-induced variability (Anglada-Escudé & Tuomi, 2015)⊳ 7–15 planets suggested from Bayesian inference (Brewer & Donovan, 2015)⊳ stellar activity as an explanation for some claimed planets (Robertson et al., 2015b)⊳ ultraviolet flux models (Rugheimer et al., 2015)⊳ confirmation from CARMENES (Trifonov et al., 2018a)⊳ detection of H_2O-maser emission (Cosmovici & Pogrebenko, 2018)⊳

GJ 617 see HD 147379

GJ 625 discovery (Suárez Mascareño et al., 2017b)⊳

GJ 628 see Wolf 1061

GJ 649 discovery of planet b (Johnson et al., 2010c)⊳ high eccentricity as an artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳

GJ 667C 5-planet system; GJ 667 C is common proper motion companion to binary GJ 667 AB; discovery of planets b and c (Bonfils et al., 2013a)⊳ 3 additional candidates from combined data (Anglada-Escudé et al., 2012a)⊳ dynamical packing in a 6- or 7-planet system (Anglada-Escudé et al., 2013b)⊳ effect of tidal heating on habitability (Barnes et al., 2013b)⊳ additional HARPS data and improved orbits (Delfosse et al., 2013)⊳ ultraviolet radiation environment (France et al., 2013)⊳ influence of thermal evolution in the magnetic protection of terrestrial planets (Zuluaga et al., 2013)⊳ Bayesian analysis of radial velocity data (Feroz & Hobson, 2014)⊳ astrometric search with RECONS (Lurie et al., 2014)⊳ dynamical stability (Makarov & Berghea, 2014)⊳ effects of activity-induced variability (Robertson & Mahadevan, 2014)⊳ spin–orbit evolution (Cuartas-Restrepo et al., 2016)⊳ stratospheric circulation and O_3 production in tidally locked planets (Carone et al., 2018)⊳

GJ 674 discovery (Bonfils et al., 2007)⊳ effects of stellar activity (Boisse et al., 2011)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

GJ 676A 4-planet system; discovery of planet b, and evidence for planet c (Forveille et al., 2011b)⊳ discovery/confirmation of planet c, and suggested d and e being close-in orbits with super-Earth mass (Anglada-Escudé & Tuomi, 2012)⊳ mass of planet b from ground-based astrometry with VLT–FORS2 (Sahlmann et al., 2016)⊳ system is hierarchically AMD-stable (Laskar & Petit, 2017)⊳

GJ 687 discovery (Burt et al., 2014)⊳

GJ 785 see HD 192310

GJ 832 2-planet system; discovery of planet b (Bailey et al., 2009)⊳ ultraviolet radiation environment (France et al., 2013)⊳ discovery of planet c (Wittenmyer et al., 2014c)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳ dynamical analysis and evidence for a third planet (Satyal et al., 2017)⊳

GJ 849 discovery of planet b (Butler et al., 2006a)⊳ astrometric search with RECONS (Lurie et al., 2014)⊳ new radial velocities (Feng et al., 2015)⊳

GJ 876 4-planet system; independent discovery of planet b (Delfosse et al., 1998)⊳ independent discovery of planet b (Marcy et al., 1998)⊳ **2000:** constraints on debris disk (Trilling et al., 2000)⊳ dynamical stability (Kinoshita & Nakai, 2001)⊳ dynamical interaction between planets c and d (Laughlin & Chambers, 2001)⊳ discovery of planet c in 2:1 resonance (Marcy et al., 2001a)⊳ dynamical stability (Rivera & Lissauer, 2001)⊳ disk-driven inward migration and resonant trapping (Snellgrove et al., 2001)⊳ inclination and mass of planet b from HST–FGS (Benedict et al., 2002)⊳ dynamical stability (Goździewski et al., 2002)⊳ dynamical stability (Ji et al., 2002a)⊳ dynamics and origin of the 2:1 resonance (Lee & Peale, 2002)⊳ tidal, spin, and dynamical evolution (Mardling & Lin, 2002)⊳ origin, evolution, and properties of resonances (Beaugé & Michtchenko, 2003)⊳ libration (Ji et al., 2003c)⊳ evolution of systems in resonance (Kley et al., 2004)⊳ diversity and origin of the 2:1 resonance (Lee, 2004)⊳ **2005:** dynamical models (Kley et al., 2005)⊳ analysis of the system (Laughlin et al., 2005a)⊳ dynamics of 2:1 resonance systems (Psychoyos & Hadjidemetriou, 2005)⊳ discovery of planet d, and stellar rotation (Rivera et al., 2005)⊳ planetary migration (Beaugé et al., 2006)⊳ constraints on transits of planets b and c (Shankland et al., 2006)⊳ atmospheric evaporation of planet d (Lecavelier des Etangs, 2007)⊳ orbit stability (Rivera & Haghighipour, 2007)⊳ effect of protoplanetary disk on resonances (Veras, 2007)⊳ improved constraints on debris disk from VLA and ACTA (Shankland et al., 2008)⊳ mutual inclination of planets b and c from dynamics (Bean & Seifahrt, 2009)⊳ atmospheric constraints on planet d from Spitzer–IRAC (Seager & Deming, 2009)⊳ **2010:** improved HARPS radial velocities, architecture, and constraints on putative planet e (Correia et al., 2010)⊳ evaporation rates (Lecavelier des Etangs, 2010)⊳ improved Keck–HIRES radial velocities, discovery of planet e in a 'chaotic' Laplace resonance (Rivera et al., 2010b)⊳ orbit configuration (Baluev, 2011)⊳ dynamical processes in late stages of gas and dust disks (Emelyanenko, 2011)⊳ distinguishing true and alias periods using the Vuong test (Baluev, 2012)⊳ time-resolved ultraviolet spectroscopy from HST–COS/STIS, and emission from hot H_2 (France et al., 2012)⊳ dynamical packing (Gerlach & Haghighipour, 2012)⊳ outward migration of a super-Earth in a disk with outward-propagating density waves (Podlewska-Gaca et al., 2012)⊳ detectability with ELTs (Crossfield, 2013)⊳ ultraviolet radiation environment (France et al., 2013)⊳ stability analysis of the Laplace resonance (Martí et al., 2013)⊳ suggestion of two additional planets from Keck/HARPS data (Jenkins et al., 2014)⊳ no evidence of transits from Spitzer (Kammer et al., 2014)⊳ astrometric search with RECONS (Lurie et al., 2014)⊳ detecting exomoons from Io-type radio emission (Noyola et al., 2014)⊳ stellar diameter and temperature (von

Braun et al., 2014)⊳ **2015:** formation of multi-resonant structure with turbulent forcing (Batygin et al., 2015)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳ simulation of Gaia astrometric data (Huang & Ji, 2016)⊳ chaotic diffusion and orbital stability (Martí et al., 2016)⊳ evidence for 3d Laplace resonance (Nelson et al., 2016)⊳ formation by stellar perturbations (Shara et al., 2016)⊳ detection of organic haze with JWST (Arney et al., 2017)⊳ planet search utilising compressed sensing techniques (Hara et al., 2017)⊳ astrometric planet detection with Gaia (Huang & Ji, 2017)⊳ Laplace resonance formation through migration in an eccentric disk (Cimerman et al., 2018)⊳ hydrodynamical modeling of Laplace resonance formation (Dempsey & Nelson, 2018)⊳ dynamical models suggest a low-energy, quasi-regular double apsidal corotation resonance (Millholland et al., 2018)⊳ eccentricity of planet d suggests $Q \sim 10^4 - 10^5$ (Puranam & Batygin, 2018)⊳ penetrative convection in planet d as a consequences of $MgSiO_3$ post-perovskite dissociation transition (Shahnas et al., 2018)⊳ confirmation of planets from CARMENES (Trifonov et al., 2018a)⊳ host star age from kinematics and α-element enrichment (Veyette & Muirhead, 2018)⊳

GJ 1148 ≡ HIP 57050; 2-planet system; discovery, and location within habitable zone (Haghighipour et al., 2010)⊳ confirmation of planet b and discovery of planet c from CARMENES (Trifonov et al., 2018a)⊳

GJ 1265* discovery (Luque et al., 2018)⊳

GJ 3021 discovery (Naef et al., 2001b)⊳ infrared spectra of co-moving M dwarf GJ 3021 B (Mugrauer et al., 2007)⊳

GJ 3138 3-planet system; discovery (Astudillo-Defru et al., 2017b)⊳

GJ 3293 4-planet system; discovery of planets b and c from HARPS (Astudillo-Defru et al., 2015)⊳ discovery of planets d and e from further HARPS observations (Astudillo-Defru et al., 2017b)⊳

GJ 3323 2-planet system; discovery (Astudillo-Defru et al., 2017b)⊳

GJ 3341 discovery from HARPS (Astudillo-Defru et al., 2015)⊳

GJ 3470 see transiting systems

GJ 3634 discovery, and transit search by Spitzer–IRAC (Bonfils et al., 2011)⊳ distinguishing true and alias periods using the Vuong test (Baluev, 2012)⊳ capture into spin–orbit resonance (Rodríguez et al., 2012)⊳

GJ 3779* discovery (Luque et al., 2018)⊳

GJ 3942 discovery, and possible evidence for planet c (Perger et al., 2017)⊳

GJ 3998 2-planet super-Earth system; discovery (Affer et al., 2016)⊳

HAT/HATS

HAT–P–11 c* see transiting systems

HAT–P–13 c see transiting systems

HAT–P–17 c see transiting systems

HAT–P–44 c see transiting systems

HATS–59 c see transiting systems

HD

HD 142 2-planet system; discovery of planet b (Tinney et al., 2002)⊳ discovery of planet c (Wittenmyer et al., 2012b)⊳

HD 564 discovery (Moutou et al., 2015)⊳

HD 1461 2-planet super-Earth system; discovery of planet b and evidence for two additional planets (Rivera et al., 2010a)⊳ Spitzer transit search (Kammer et al., 2014)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳ confirmation of planet c (Díaz et al., 2016b)⊳

HD 1502 discovery (Johnson et al., 2011a)⊳

HD 1605 2-planet system; discovery (Harakawa et al., 2015)⊳

HD 1666 discovery (Harakawa et al., 2015)⊳

HD 1690 discovery (Moutou et al., 2011b)⊳ limits on stellar companion (Kane et al., 2014)⊳

HD 2039 metal-enriched star; discovery (Tinney et al., 2003)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳

HD 2638 discovery (Moutou et al., 2005)⊳ stellar companion (Roberts et al., 2015c)⊳ confirmed stellar companion from lucky imaging (Ginski et al., 2016) ⊳ stellar companion (Wittrock et al., 2016)⊳

HD 2952 discovery (Sato et al., 2013a)⊳

HD 3651 discovery of planet b with $e = 0.6$ (Fischer et al., 2003a)⊳ imaging of brown dwarf companion HD 3651 B (Mugrauer et al., 2006)⊳ infrared spectroscopy of HD 3651 B (Burgasser, 2007)⊳ properties of the late-T dwarf companion (Liu et al., 2007)⊳ Bayesian analysis (Tuomi & Jones, 2012)⊳ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳ long-term stability (Antoniadou & Voyatzis, 2016)⊳

HD 4113 high eccentricity ($e = 0.90$); discovery (Tamuz et al., 2008)⊳ direct imaging of a host star substellar companion from VLT–SPHERE (Cheetham et al., 2018)⊳

HD 4203 2-planet system; discovery of planet b (Vogt et al., 2002)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳ compositional diversity due to giant planet migration (Carter-Bond et al., 2012)⊳ discovery of planet c (Kane et al., 2014)⊳

HD 4208 discovery (Vogt et al., 2002)⊳ dynamics and stability (Hinse et al., 2008)⊳ stability of terrestrial planets in habitable zone (Alonso et al., 2009a)⊳

HD 4308 discovery (Udry et al., 2006)⊳

HD 4313 discovery (Johnson et al., 2010b)⊳

HD 4732 2-planet system; discovery (Sato et al., 2013b)⊳

HD 4917* possible 3-planet system; discovery (Luhn et al., 2018)⊳

HD 5319 2-planet system; discovery of planet b (Robinson et al., 2007)⊳ discovery of planet c (Giguere et al., 2015)⊳ dynamical stability (Kane, 2016)⊳

HD 5388 not in NASA; claimed discovery, unconfirmed (Santos et al., 2010)⊳

HD 5583 discovery (Niedzielski et al., 2016a)⊳

HD 5608 discovery (Sato et al., 2012b)⊳ co-moving companion from Subaru–HiCIAO (Ryu et al., 2016)⊳

HD 5891 discovery (Johnson et al., 2011a)⊳

HD 6434 discovery (Mayor et al., 2004)⊳ ephemeris refinement, transit probability, and absence of transits (Hinkel et al., 2015b)⊳

HD 6718 discovery (Naef et al., 2010)⊳

HD 7199 discovery, and long-term stellar activity (Dumusque et al., 2011a)⊳

HD 7449 discovery of planet b, high eccentricity ($e = 0.8$), and evidence for planet c (Dumusque et al., 2011a)⊳ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳ long-term stability (Antoniadou & Voyatzis, 2016)⊳ M dwarf companion from MagAO imaging (Rodigas et al., 2016)⊳ stellar multiplicity from VLT–SPHERE (Moutou et al., 2017)⊳

HD 7924 3-planet system; discovery of planet b (Howard et al., 2009)⊳ no Spitzer transits (Kammer et al., 2014)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳ discovery of planets c and d (Fulton et al., 2015b)⊳ dynamical stability (Kane, 2016)⊳

HD 8535 discovery (Naef et al., 2010)⊳

HD 8574 discovery (Perrier et al., 2003)⊳

HD 8673 discovery (Hartmann et al., 2010)⊳ stellar M dwarf companion from imaging may explain high eccentricity (Roberts et al., 2015a)⊳

HD 9174 discovery (Jenkins et al., 2017)⊳

HD 9446 2-planet system; discovery of planets b and c (Hébrard et al., 2010a)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳

HD 10180 6-planet system (planets c–h); discovery of at least 6 planets from HARPS (Lovis et al., 2011)⊳ tidal interactions in multi-planet systems (Papaloizou, 2011)⊳ Bayesian analysis (Feroz et al., 2011b)⊳ constraints on eccentricity from tidal dissipation (Laskar et al., 2012)⊳ evidence for 9 planets in published data (Tuomi, 2012)⊳ dynamical stability as a function of eccentricity, and planet g within habitable zone (Kane & Gelino, 2014)⊳ planet search utilising compressed sensing techniques (Hara et al., 2017)⊳ system is hierarchically AMD-stable (Laskar & Petit, 2017)⊳ dynamics of possible exocomets (Loibnegger et al., 2017)⊳ prediction of 4 missing planets from Titius–Bode law (Aschwanden, 2018)⊳

HD 10442 discovery (Giguere et al., 2015)⊳

HD 10647 ≡ q^1 Eri; unpublished discovery of planet b (quoted by Butler et al., 2006b)⊳ planet b not confirmed (Jones et al., 2004)⊳ planet b confirmed (Butler et al., 2006b)⊳ infrared to sub-mm spectral energy distribution of debris disk (Liseau et al., 2008)⊳ cold debris disk resolved by Herschel–PACS (Liseau et al., 2010)⊳ mass constraints from Hipparcos (Reffert & Quirrenbach, 2011)⊳ debris disk radius and grain sizes from Herschel (Pawellek et al., 2014)⊳

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HD 10697 discovery (Vogt et al., 2000)⊳ Hipparcos astrometry suggests brown dwarf, $38M_J$ (Zucker & Mazeh, 2000)⊳ stellar diameter (Boyajian et al., 2013)⊳

HD 11506 2-planet system; discovery of planet b (Fischer et al., 2007)⊳ discovery of planet c from published data (Tuomi & Kotiranta, 2009)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳ confirmation of planet c from N2K (Giguere et al., 2015)⊳

HD 11755 discovery (Lee et al., 2015a)⊳

HD 11964 2-planet system; discovery of planet b (Butler et al., 2006b)⊳ evidence for planet d (Gregory, 2007b)⊳ discovery of planet c (Wright et al., 2009b)⊳ secular orbital dynamics (Veras & Ford, 2010)⊳ tidal evolution (Correia et al., 2011)⊳ stellar diameter (Boyajian et al., 2013)⊳ dynamical stability (Elser et al., 2013)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳

HD 11977 discovery (Setiawan et al., 2005)⊳

HD 12484 discovery (Hébrard et al., 2016)⊳

HD 12648 discovery (Lee et al., 2015a)⊳

HD 12661 2-planet system; discovery of planet b (Fischer et al., 2001)⊳ system stability (Kiseleva-Eggleton et al., 2002)⊳ discovery of planet c (Fischer et al., 2003b)⊳ system stability (Goździewski, 2003b)⊳ system stability (Goździewski & Maciejewski, 2003)⊳ resonant motion, and apsidal (anti-)alignment (Ji et al., 2003c)⊳ dynamics and stability (Rodríguez & Gallardo, 2005)⊳ orbit migration and stability (Zhang & Zhou, 2006)⊳ proximity to resonance (Libert & Henrard, 2007)⊳ consistency with a stable Kozai-resonant state (Libert & Tsiganis, 2009)⊳ higher time-averaged eccentricity for planet c (Veras & Ford, 2009)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳

HD 13167* discovery (Luhn et al., 2018)⊳

HD 13189 discovery (Hatzes et al., 2005)⊳ stellar abundances (Schuler et al., 2005)⊳

HD 13908 2-planet system; discovery of planets b and c (Moutou et al., 2014b)⊳

HD 13931 discovery (Howard et al., 2010)⊳

HD 14067 discovery (Wang et al., 2014b)⊳ constraints on co-moving companion from Subaru–HiCIAO (Ryu et al., 2016)⊳

HD 14787* discovery (Luhn et al., 2018)⊳

HD 16141 discovery (Marcy et al., 2000)⊳ imaging of co-moving stellar companion (Mugrauer et al., 2005b)⊳

HD 16175 discovery (Peek et al., 2009)⊳ combined ELODIE and Lick constraints (Díaz et al., 2016a)⊳

HD 16417 discovery (O'Toole et al., 2009)⊳

HD 17092 discovery (Niedzielski et al., 2007)⊳

HD 17156 see transiting systems

HD 17674 discovery (Rey et al., 2017)⊳

HD 18015* discovery (Luhn et al., 2018)⊳

HD 18742 discovery (Johnson et al., 2011a)⊳

HD 19994 provisional discovery announced in 2000 (Queloz et al., 2004)⊳ stellar abundances (Smith et al., 2001)⊳ published orbit (Mayor et al., 2004)⊳ compositional diversity due to giant planet migration (Carter-Bond et al., 2012)⊳ orbital analysis (Plávalová & Solovaya, 2013)⊳ asteroseismology and impact of atomic diffusion on stellar parameters (Deal et al., 2017)⊳

HD 20782 largest known eccentricity discovered by radial velocity ($e = 0.956$); wide stellar binary with HD 20781; discovery (Jones et al., 2006)⊳ ejection of putative Earth-mass planets from habitable zone (Yeager et al., 2011)⊳ prospects for direct imaging of tidally-powered systems (Dong et al., 2013)⊳ abundance analysis of wide stellar binary and evidence for planet accretion (Mack et al., 2014)⊳ evidence for reflected light from MOST (Kane et al., 2016b)⊳

HD 20794 4-planet system; discovery of planets b, c, d (Pepe et al., 2011)⊳ Kuiper belt structure around nearby super-Earth hosts (Kennedy et al., 2015)⊳ discovery of planet e (Feng et al., 2017b)⊳

HD 20868 discovery (Moutou et al., 2009b)⊳

HD 22781 discovery (Díaz et al., 2011)⊳ discovery (Díaz et al., 2012)⊳

HD 23079 discovery (Tinney et al., 2002)⊳ possibility of habitable Trojans (Eberle et al., 2011)⊳ orbit stability, and possibility of habitable exomoons (Cuntz et al., 2013)⊳

HD 23127 discovery (O'Toole et al., 2007)⊳

HD 23596 discovery (Perrier et al., 2003)⊳ discovery (Udry et al., 2003b)⊳

HD 24040 discovery (Wright et al., 2007)⊳ orbit from SOPHIE, and evidence for planet c (Boisse et al., 2012)⊳ new radial velocities (Feng et al., 2015)⊳

HD 24064 discovery (Lee et al., 2015a)⊳

HD 25171 discovery (Moutou et al., 2011b)⊳

HD 26965* discovery (Ma et al., 2018)⊳

HD 27442 ≡ ϵ Ret; wide binary; discovery (Butler et al., 2001)⊳ spectroscopy of HD 27442 B (Chauvin et al., 2007)⊳ imaging of co-moving companion HD 27442 B (Mugrauer et al., 2007)⊳ evolutionary constraints the white dwarf companion (Farihi et al., 2011)⊳ mass constraints from Hipparcos intermediate astrometry (Reffert & Quirrenbach, 2011)⊳

HD 27631 discovery (Marmier et al., 2013);

HD 27894 3-planet system, close-in pair with 2:1 period ratio and an eccentric Jovian planet at 5.4 au; discovery of planet b (Moutou et al., 2005)⊳ disentangling eccentric versus 2:1 resonant radial velocity orbits, and evidence for second planet (Kürster et al., 2015)⊳ discovery of planets b and c (Trifonov et al., 2017)⊳

HD 28185 discovery (Santos et al., 2001)⊳ confirmation from Magellan–MIKE (Minniti et al., 2009)⊳ habitability of hypothetical exomoon (Hinkel & Kane, 2013a)⊳

HD 28254 discovery (Naef et al., 2010)⊳

HD 28678 discovery (Johnson et al., 2011a)⊳

HD 29021 discovery (Rey et al., 2017)⊳

HD 30177 2-planet system, metal-enriched star; discovery of planet b with AAT (Tinney et al., 2003)⊳ discovery of planet c with AAT (Wittenmyer et al., 2017a)⊳

HD 30562 discovery (Fischer et al., 2009)⊳

HD 30669 discovery (Moutou et al., 2015)⊳

HD 30856 discovery (Johnson et al., 2011a)⊳ stellar multiplicity (Ngo et al., 2017)⊳

HD 31253 discovery (Meschiari et al., 2011)⊳

HD 32518 discovery (Döllinger et al., 2009b)⊳

HD 32963 discovery (Rowan et al., 2016)⊳

HD 33142 2-planet system; discovery of planet b (Johnson et al., 2011a)⊳ confirmation of planet c (Bryan et al., 2016b)⊳

HD 33283 discovery (Johnson et al., 2006b)⊳ thermal detection of long-period eccentric planets during pericentre passage with Spitzer and JWST (Kane & Gelino, 2011)⊳

HD 33564 discovery (Galland et al., 2005)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳

HD 33844 2-planet system in 3:5 resonance; discovery and dynamical stability (Wittenmyer et al., 2016b)⊳

HD 34445 6-planet system; discovery of planet b from Keck/HET (Howard et al., 2010)⊳ discovery of planets b–g from 18 yr of data with Keck, Magellan, APF (Vogt et al., 2017)⊳

HD 35759 discovery (Hébrard et al., 2016)⊳

HD 37124 3-planet system; discovery of planet b (Vogt et al., 2000)⊳ dynamical stability and apsidal motion (Kiseleva-Eggleton et al., 2002)⊳ discovery of planet c (Butler et al., 2003)⊳ dynamical stability (Goździewski, 2003a)⊳ dynamical stability (Ji et al., 2003c)⊳ unexpected position in HR diagram (Laws et al., 2003)⊳ stellar models (Fernandes & Santos, 2004)⊳ provisional discovery of planet d (Vogt et al., 2005)⊳ dynamical stability (Goździewski et al., 2006)⊳ dynamical stability and possible resonances (Baluev, 2008)⊳ dynamical stability (Goździewski et al., 2008a)⊳ Bayesian analysis (Feroz et al., 2011b)⊳ confirmation of planet d, and 2:1 resonance (Wright et al., 2011b)⊳ dynamical stability (Elser et al., 2013)⊳ reversibility error method applied to orbital dynamics (Panichi et al., 2017)⊳

HD 37605 2-planet system; discovery of planet b with $e = 0.7$ (Cochran et al., 2004)⊳ persistent circumpolar vortices resulting from variable atmospheric forcing (Langton & Laughlin, 2008)⊳ photometric phase variations of long-period eccentric planets (Kane & Gelino, 2010)⊳ thermal detection of long-period eccentric planets during pericentre passage with Spitzer and JWST (Kane & Gelino, 2011)⊳ discovery of planet c, and transit constraints on planet b (Wang et al., 2012b)⊳ dynamics of eccentric systems (Kane & Raymond, 2014)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

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HD 38283 gas giant orbiting a circumpolar star with $P = 363$ d and $e = 0.4$; discovery (Tinney et al., 2011b)▷

HD 38529 2-planet system; discovery of planet b and evidence for planet c (Fischer et al., 2001)▷ dynamical stability (Kiseleva-Eggleton et al., 2002)▷ confirmation/discovery of planet c (Fischer et al., 2003b)▷ dynamical stability of the habitable zone (Érdi et al., 2004)▷ planet c mass ($37M_J$) from Hipparcos astrometry (Reffert & Quirrenbach, 2006)▷ proximity to resonance (Libert & Henrard, 2007)▷ distribution of dust-producing planetesimals from Spitzer (Moro-Martín et al., 2007)▷ planet c mass ($18M_J$) from HST–FGS astrometry (Benedict et al., 2010)▷ secular orbital dynamics (Veras & Ford, 2010)▷ host star properties and transit exclusion (Henry et al., 2013)▷ collisional parameters of planetesimal belt (Marzari & Dell'Oro, 2017)▷

HD 38801 discovery (Harakawa et al., 2010)▷

HD 40307 5-planet system; discovery of super-Earth planets b, c, d (Mayor et al., 2009b)▷ higher planet masses suggested by dynamical and tidal studies (Barnes et al., 2009)▷ transit limits for planet b from Spitzer–IRAC (Gillon et al., 2010a)▷ dynamical evolution (Papaloizou & Terquem, 2010)▷ mean motion resonances and migration (Wang, 2011)▷ planets e, f, g suggested from Bayesian analysis of HARPS data (Tuomi et al., 2013a)▷ influence of thermal evolution in the magnetic protection of terrestrial planets (Zuluaga et al., 2013)▷ dynamical study of habitability of super-Earth planet g (Brasser et al., 2014)▷ formation of close period ratios (Chen, 2015)▷ gravitational quantisation of orbits (Geroyannis, 2015)▷ confirmation and characterisation of planets b–e (Díaz et al., 2016b)▷

HD 40956 long-period planet ($P = 579$ d) orbiting a K giant; discovery (Jeong et al., 2018)▷

HD 40979 discovery (Fischer et al., 2003b)▷

HD 41004A and HD 41004B hierarchical system with one planet orbiting binary component A, and a brown dwarf orbiting fainter component B; discovery of planet b orbiting HD 41004 A, and complex radial velocity signature due to proximity of binary star components (Santos et al., 2002)▷ discovery of planet b orbiting HD 41004 B (Zucker et al., 2003)▷ nature of hierarchical system (Zucker et al., 2004)▷ stellar multiplicity (Raghavan et al., 2006)▷ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)▷ radial velocity contribution from tides (Arras et al., 2012)▷ habitable terrestrial planets in tight binary systems (Funk et al., 2015)▷ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▷ identification of secular resonances in multi-planet systems with a binary companion (Pilat-Lohinger et al., 2016)▷ dynamical stability (Satyal & Musielak, 2016)▷

HD 41248 not in NASA; claimed 2-planet system with periods 18.3 and 25.6 d, subsequently retracted; planet with $P = 13.4$ d subsequently proposed; claimed discovery of planets b and c, in possible 7:5 resonance, from re-analysis of HARPS data (Jenkins et al., 2013b)▷ nature of the planetary signals (Jenkins & Tuomi, 2014)▷ signals attributed to stellar activity (Santos et al., 2014)▷ discovery of $7.1M_\oplus$ planet with $P = 13.4$ d (Feng et al., 2017a)▷

HD 42012 discovery (Rey et al., 2017)▷

HD 42618 discovery (Fulton et al., 2016)▷

HD 43197 discovery (Naef et al., 2010), thermal detection of long-period eccentric planets during pericentre passage with Spitzer and JWST (Kane & Gelino, 2011)▷ possible radio detection with VLA NVSS (Sirothia et al., 2014)▷

HD 43691 discovery (da Silva et al., 2007)▷ stellar multiplicity (Ngo et al., 2017)▷

HD 44219 discovery (Naef et al., 2010)▷ stellar companion constraints from VLT–NACO imaging (Ginski et al., 2013)▷

HD 45350 discovery (Marcy et al., 2005)▷ confirmation (Endl et al., 2006)▷

HD 45364 2-planet system, first discovery of a 3:2 resonance; discovery of planets b and c in 3:2 resonance (Correia et al., 2009)▷ possible origin of 3:2 resonance (Rein et al., 2010)▷ alternative formation via migration (Correa-Otto et al., 2013)▷ chaotically evolving eccentricities and inclinations with mutual inclinations (Barnes et al., 2015b)▷

HD 45652 discovery (Santos et al., 2008)▷

HD 46375 discovery (Marcy et al., 2000)▷ constraints on transits (Henry, 2000)▷ unexpected position in HR diagram (Laws et al., 2003)▷ stellar models (Fernandes & Santos, 2004)▷ possible detection of reflected light from CoRoT (Gaulme et al., 2010b)▷ spectrometry and asteroseismology (Gaulme et al., 2010a)▷ stellar magnetic field topology (Fares et al., 2013)▷ stellar wind properties, magnetic fields, bow shocks and radio emission (Vidotto et al., 2015)▷

HD 47186 2-planet system; discovery of planets b and c (Bouchy et al., 2009)▷ dynamical stability of putative planet in habitable zone (Kopparapu et al., 2009)▷ dynamical stability (Elser et al., 2013)▷

HD 47366 2-planet system, possibly mutually retrograde; discovery (Sato et al., 2016)▷ reanalysis of dynamical stability (Marshall et al., 2019)▷

HD 47536 discovery (Setiawan et al., 2003)▷

HD 48265 discovery (Minniti et al., 2009)▷ improved orbit (Jenkins et al., 2017)▷

HD 49674 discovery (Butler et al., 2003)▷

HD 50499 discovery of planet b, and evidence for planet c (Vogt et al., 2005)▷

HD 50554 discovery (Fischer et al., 2002a)▷ orbit formalising original discovery (Perrier et al., 2003)▷ debris disk observations with Herschel–PACS (Dodson-Robinson et al., 2016)▷

HD 52265 discovery (Butler et al., 2000)▷ independent discovery (Naef et al., 2001b)▷ stellar composition (Santos et al., 2000a)▷ asteroseismology from CoRoT (Soriano et al., 2007)▷ asteroseismology from CoRoT (Ballot et al., 2011)▷ asteroseismology from CoRoT (Escobar et al., 2012)▷ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)▷ seismic constraints on rotation (Gizon et al., 2013)▷ stellar mass and age from CoRoT asteroseismology (Lebreton & Goupil, 2014)▷ debris disk observations with Herschel–PACS (Dodson-Robinson et al., 2016)▷

HD 55696* discovery (Ment et al., 2018)▷

HD 59686A discovery (Ortiz et al., 2016)▷ dynamical models indicate stable orbital solutions locked in a secular apsidal alignment (Trifonov et al., 2018b)▷

HD 60532 2-planet system; discovery of planets b and c in possible 3:1 resonance (Desort et al., 2008)▷ discovery and radial velocity (Desort et al., 2009)▷ confirmation of the 3:1 resonance from dynamical studies, and determination of $i = 20°$ (Laskar & Correia, 2009)▷ origin of 3:1 resonance via resonance capture for high-mass planets (Sándor & Kley, 2010)▷ chaotically evolving eccentricities and inclinations with mutual inclinations (Barnes et al., 2015b)▷ phase space structure of the 3:1 resonance (Alves et al., 2016)▷ orbital evolution of a pair of giant planets in mean motion resonance (André & Papaloizou, 2016)▷

HD 62509 ≡ β Gem ≡ Pollux; discovery (Hatzes & Cochran, 1993)▷ confirmation from Lick radial velocities (Reffert et al., 2006)▷ planet engulfment by red giant branch evolution (Kunitomo et al., 2011)▷ simulation of Gaia astrometric data (Huang & Ji, 2016)▷ astrometric planet detection with Gaia (Huang & Ji, 2017)▷ constraints on radio emission from LOFAR (O'Gorman et al., 2018)▷

HD 63454 discovery (Moutou et al., 2005)▷ revised transit ephemeris and transit constraints (Kane et al., 2011a)▷ constraints on stellar variability (Kane et al., 2011a)▷

HD 63765 discovery (Ségransan et al., 2011)▷

HD 65216 2-planet system; discovery of planets b and c (Mayor et al., 2004)▷ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)▷

HD 66141 discovery (Lee et al., 2012b)▷

HD 66428 discovery (Butler et al., 2006b)▷ new radial velocities (Feng et al., 2015)▷

HD 67087 2-planet system; discovery (Harakawa et al., 2015)▷

HD 68402 discovery (Jenkins et al., 2017)▷

HD 68988 discovery (Vogt et al., 2002)▷ models of planet radius (Bodenheimer et al., 2003)▷ evidence for planet c (Wright et al., 2007)▷ post-Newtonian effects (Li, 2012)▷ chromospheric activity (Kuznyetsova et al., 2014)▷

HD 69830 3-planet system of Neptune masses and asteroid belt; asteroid or cometary debris from Spitzer photometry (Beichman et al., 2005)▷ discovery of planets b, c, d (Lovis et al., 2006)▷ formation scenario via extended core accretion (Alibert et al., 2006)▷ system stability (Ji et al., 2007)▷ atmospheric evaporation (Lecavelier des Etangs, 2007)▷ dynamical simulations and constraints on e and i (Payne et al., 2009)▷ resolved imaging of debris disk using VLT–MIDI/VISIR (Smith et al., 2009b)▷ limits on photometric variability of debris disk (Beichman et al., 2011)▷ debris disk mass estimates (Heng, 2011)▷ Kuiper belt structure around nearby super-Earth hosts (Kennedy

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et al., 2015)⊳ stellar parameters from CHARA interferometry (Tanner et al., 2015)⊳ planet search utilising compressed sensing techniques (Hara et al., 2017)⊳

HD 70573 discovery (Setiawan et al., 2007)⊳

HD 70642 discovery (Carter et al., 2003)⊳ dynamical stability of putative Earth-like planet in habitable zone (Hinse et al., 2008)⊳ detection of stellar magnetic field (Fossati et al., 2013b)⊳

HD 72490* discovery (Luhn et al., 2018)⊳

HD 72659 discovery (Butler et al., 2003)⊳ dynamical stability of putative Earth-like planet in habitable zone (Asghari et al., 2004)⊳

HD 72892 discovery (Jenkins et al., 2017)⊳

HD 73256 discovery (Udry et al., 2003a)⊳ chromospheric activity related to stellar rotation and planet orbit (Shkolnik et al., 2005)⊳ stellar magnetic field topology (Fares et al., 2013)⊳ stellar wind properties, magnetic fields, bow shocks and radio emission (Vidotto et al., 2015)⊳

HD 73267 discovery (Moutou et al., 2009b)⊳

HD 73526 2-planet system around metal-enriched star; discovery of planet b (Tinney et al., 2003)⊳ alternative orbits for planet b (Gregory, 2005)⊳ discovery of planet c in 2:1 resonance with planet b (Tinney et al., 2006)⊳ stability and formation of resonant system (Sándor et al., 2007)⊳ analysis of radial velocity variations (Pál, 2010)⊳ stability (Zhang et al., 2010)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳ dynamical stability from 6 yr of radial velocities from AAT and Magellan (Wittenmyer et al., 2014b)⊳ chaotically evolving eccentricities and inclinations with mutual inclinations (Barnes et al., 2015b)⊳

HD 73534 discovery (Valenti et al., 2009)⊳ habitability of hypothetical exomoon (Hinkel & Kane, 2013a)⊳

HD 74156 2-planet system; discovery of planets b and c (Naef et al., 2004)⊳ dynamical stability and habitable zone (Dvorak et al., 2003b)⊳ proximity to resonance (Libert & Henrard, 2007)⊳ discovery of planet d (Bean et al., 2008b)⊳ dynamical prediction of planet d (Barnes et al., 2008b)⊳ ^{6}Li/^{7}Li ratio (Ghezzi et al., 2009)⊳ consistency with a stable Kozai-resonant state (Libert & Tsiganis, 2009)⊳ additional Keck–HIRES data does not confirm planet d (Meschiari et al., 2011)⊳ favourable for tests of solar spin–orbit coupling (Perryman & Schulze-Hartung, 2011)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳ dynamics of eccentric systems (Kane & Raymond, 2014)⊳ new radial velocities (Feng et al., 2015)⊳

HD 75289 discovery (Udry et al., 2000)⊳ stellar abundances (Gonzalez & Laws, 2000)⊳ stellar abundances (Santos et al., 2000a)⊳ tidal constraints on mass of planet b (Trilling, 2000)⊳ constraints on stellar reflected light from VLT–UVES (Leigh et al., 2003b)⊳ imaging of co-moving stellar companion (Mugrauer et al., 2004b)⊳ constraints on stellar reflected light from Gemini–Phoenix (Barnes et al., 2007b)⊳ constraints on stellar reflected light (Rodler et al., 2008)⊳ wavelength calibration using laser frequency comb (Wilken et al., 2012)⊳

HD 75784 2-planet system; discovery of planet b (Giguere et al., 2015)⊳ discovery of planet c (Ment et al., 2018)⊳

HD 75898 discovery (Robinson et al., 2007)⊳ distinguishing true and alias periods using the Vuong test (Baluev, 2012)⊳

HD 76700 metal-enriched star; discovery (Tinney et al., 2003)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳

HD 76920 high eccentricity (e = 0.86) orbiting a giant star; discovery (Wittenmyer et al., 2017b)⊳

HD 77338 discovery (Jenkins et al., 2013a)⊳ stellar abundances (Kushniruk et al., 2014)⊳

HD 79498 discovery (Robertson et al., 2012a)⊳

HD 80606 see transiting systems

HD 81040 discovery (Sozzetti et al., 2006a)⊳

HD 81688 discovery (Sato et al., 2008a)⊳

HD 82886 discovery (Johnson et al., 2011a)⊳

HD 82943 2-planet system in 2:1 resonance; discovery of planets b and c announced in ESO press release (2001 April 4); stellar abundances (Santos et al., 2000a)⊳ dynamical stability (Goździewski & Maciejewski, 2001)⊳ stellar ^{6}Li as evidence for planet engulfment (Israelian et al., 2001)⊳ dynamical stability (Ji et al., 2002b)⊳ search for ^{6}Li (Reddy et al., 2002)⊳ dynamical stability (Hadjidemetriou & Psychoyos, 2003)⊳ measurements of ^{6}Li (Israelian et al., 2003)⊳ apsidal anti-alignment (Ji et al., 2003a)⊳ dynamical stability (Ji et al., 2003c)⊳ evolution of resonant systems (Kley et al., 2004)⊳ orbit solution formalising original discovery (Mayor et al., 2004)⊳ alternative orbit solutions avoiding dynamical catastrophe (Ferraz-Mello et al., 2005)⊳ dynamical analysis (Psychoyos & Hadjidemetriou, 2005)⊳ alternative fit to radial velocity data, based on 1:1 resonance pair (Goździewski & Konacki, 2006)⊳ dynamical analysis (Lee et al., 2006)⊳ dynamical analysis (Barnes & Greenberg, 2007)⊳ unreliability of orbit determination (Beaugé et al., 2008)⊳ ^{6}Li/^{7}Li ratio (Ghezzi et al., 2009)⊳ photometric phase variations of long-period eccentric planets (Kane & Gelino, 2010)⊳ constraints on location of dust-producing planetesimals (Moro-Martín et al., 2010a)⊳ alignment of planetary orbits and debris disk (Kennedy et al., 2013)⊳ 10-yr of Keck radial velocity data support 2:1 resonance (Tan et al., 2013)⊳ annual CORALIE error correction, and evidence for planet d in 1:2:5 resonance (Baluev & Beaugé, 2014)⊳ long-term stability (Antoniadou & Voyatzis, 2016)⊳ planetary migration as the origin of the 2:1 mean motion resonance (Ramos et al., 2017)⊳

HD 83443 unpublished discovery of planets b and c (see Butler et al., 2002)⊳ stellar abundances (Santos et al., 2000a)⊳ confirmation of planet b but not planet c (Butler et al., 2002)⊳ tidal evolution and constraints on Love number (Wu & Goldreich, 2002)⊳ orbit solution formalising original discovery (Mayor et al., 2004)⊳

HD 85390 discovery (Mordasini et al., 2011)⊳ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳

HD 85512 discovery (Pepe et al., 2011)⊳ 3d climate modeling of close-in land planets (Leconte et al., 2013)⊳

HD 86081 discovery (Johnson et al., 2006b)⊳ stellar multiplicity (Ngo et al., 2017)⊳

HD 86226 discovery (Arriagada et al., 2010)⊳ possible radio detection with GMRT (Sirothia et al., 2014)⊳

HD 86264 discovery (Fischer et al., 2009)⊳

HD 86950 discovery (Wittenmyer et al., 2017c)⊳

HD 87646 a giant planet (MARVELS–7 b) and a brown dwarf candidate (MARVELS–7 c) represent the first close binary with more than one substellar circumprimary companion; discovery with MARVELS (Ma et al., 2016)⊳

HD 87883 discovery (Fischer et al., 2009)⊳

HD 88133 discovery (Fischer et al., 2005)⊳ cyclic transit probabilities for long-period eccentric orbits due to apsidal precession (Kane et al., 2012)⊳ post-Newtonian effects (Li, 2012)⊳ evidence for direct detection of the thermal spectrum of the non-transiting hot gas giant (Piskorz et al., 2016)⊳

HD 89307 discovery (Fischer et al., 2009)⊳ improved orbit (Boisse et al., 2012)⊳

HD 89744 high eccentricity (e = 0.7); discovery (Korzennik et al., 2000)⊳ imaging of co-moving stellar companion (Mugrauer et al., 2004a)⊳ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳ long-term stability (Antoniadou & Voyatzis, 2016)⊳

HD 90156 discovery (Mordasini et al., 2011)⊳

HD 92788 discovery (Fischer et al., 2001)⊳ confirmation (Mayor et al., 2004)⊳ high eccentricity as artefact of unidentified multiple planets (Wittenmyer et al., 2013)⊳

HD 93083 discovery (Lovis et al., 2005)⊳

HD 94834* discovery (Luhn et al., 2018)⊳

HD 95089 2-planet system; discovery of planet b (Johnson et al., 2010b)⊳ discovery of planet c (Bryan et al., 2016b)⊳

HD 95127 discovery (Niedzielski et al., 2015b)⊳

HD 95872 discovery (Endl et al., 2016)⊳

HD 96063 discovery (Johnson et al., 2011a)⊳ 3d atmospheric circulation modeling (Medvedev et al., 2013)⊳

HD 96127 discovery (Gettel et al., 2012b)⊳

HD 96167 discovery (Peek et al., 2009)⊳ high-contrast imaging search for substellar companions (Mugrauer & Ginski, 2015)⊳

HD 97658 see transiting systems

HD 98219 discovery (Johnson et al., 2011a)⊳

HD 98649 high eccentricity (e = 0.85); discovery, and uncertain origin of high eccentricity (Marmier et al., 2013)⊳

HD 98736* discovery (Ment et al., 2018)⊳

HD 99109 discovery (Butler et al., 2006b)⊳

HD 99492 discovery of planet b (Marcy et al., 2005)▷ claimed discovery of outer planet c (Meschiari et al., 2011)▷ stellar activity as an explanation for claimed planet c (Kane et al., 2016a)▷ application of atmospheric retrieval model (Lupu et al., 2016)▷

HD 99706 2-planet system; discovery of planet b (Johnson et al., 2011a)▷ discovery of planet c (Bryan et al., 2016b)▷

HD 100655 discovery (Omiya et al., 2012)▷

HD 100777 discovery (Naef et al., 2007)▷

HD 101930 discovery (Lovis et al., 2005)▷

HD 102117 discovery (Lovis et al., 2005)▷ independent discovery (Tinney et al., 2005)▷

HD 102195 referred to by discoverers as ET–1 (Exoplanet Tracker); discovery and confirmation with KPNO 2.1-m and HET–HRS (Ge et al., 2006)▷ confirmation from HARPS (Melo et al., 2007)▷ stellar magnetic field topology (Fares et al., 2013)▷ stellar wind properties, magnetic fields, bow shocks and radio emission (Vidotto et al., 2015)▷

HD 102272 1- or 2-planet system (1 in NASA); discovery of planets b and c (Niedzielski et al., 2009a)▷ long-term stability (Antoniadou & Voyatzis, 2016)▷

HD 102329 2-planet system; discovery of planet b (Johnson et al., 2011a)▷ discovery of planet c (Bryan et al., 2016b)▷

HD 102365 discovery (Tinney et al., 2011a)▷ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▷

HD 102956 discovery (Johnson et al., 2010a)▷

HD 103197 discovery (Mordasini et al., 2011)▷

HD 103720 discovery (Moutou et al., 2015)▷

HD 103774 discovery (Lo Curto et al., 2013)▷

HD 104067 discovery, and significant magnetic cycles (Ségransan et al., 2011)▷

HD 104985 discovery (Sato et al., 2003)▷

HD 106252 discovery (Fischer et al., 2002a)▷ confirmation (Perrier et al., 2003)▷

HD 106270 discovery (Johnson et al., 2011a)▷

HD 106515A discovery (Desidera et al., 2012)▷ improved orbit (Marmier et al., 2013)▷ binary star dynamics (Rica et al., 2017)▷

HD 107148 discovery (Butler et al., 2006b)▷ wide white dwarf companion from imaging, HD 107148B (Mugrauer et al., 2014)▷ spectroscopy of HD 107148B (Mugrauer & Dinçel, 2016)▷

HD 108147 discovery (Pepe et al., 2002)▷ cyclic transit probabilities for long-period eccentric orbits due to apsidal precession (Kane et al., 2012)▷

HD 108341 high eccentricity ($e = 0.85$); discovery (Moutou et al., 2015)▷

HD 108863 discovery (Johnson et al., 2011a)▷

HD 108874 2-planet system; discovery of planet b (Butler et al., 2003)▷ discovery of planet c (Vogt et al., 2005)▷ dynamical stability and proximity to 4:1 resonance (Goździewski et al., 2006)▷ dynamical stability (Libert & Henrard, 2007)▷ stable orbits for Trojan terrestrial planets in habitable zone (Schwarz et al., 2007)▷ secular orbital dynamics (Veras & Ford, 2010)▷ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)▷ three year monitoring and improved orbits from HARPS–N (Benatti et al., 2017)▷

HD 109246 discovery (Boisse et al., 2010)▷

HD 109271 2-planet system; discovery of planets b and c (Lo Curto et al., 2013)▷

HD 109749 discovery (Fischer et al., 2006)▷

HD 110014 discovery (de Medeiros et al., 2009)▷

HD 111232 discovery (Mayor et al., 2004)▷ confirmation (Minniti et al., 2009)▷

HD 111591 long-period planet ($P = 1056$ d) orbiting a K giant; discovery (Jeong et al., 2018)▷

HD 111998 discovery (Borgniet et al., 2017)▷

HD 113337 discovery (Borgniet et al., 2014)▷

HD 113538 2-planet system; discovery of planets b and c (Moutou et al., 2011b)▷ orbit update (Moutou et al., 2015)▷

HD 113996 long-period planet ($P = 610$ d) orbiting a K giant; discovery (Jeong et al., 2018)▷

HD 114386 1- or 2-planet system (listed as 1-planet system in NASA) discovery of planet b and unconfirmed planet c (Udry et al., 2003b)▷ discovery from CORALIE (Mayor et al., 2004)▷ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)▷

HD 114613 discovery (Wittenmyer et al., 2014a)▷

HD 114729 discovery (Butler et al., 2003)▷ imaging of co-moving stellar companion (Mugrauer et al., 2005b)▷ possible additional planets (Goździewski & Migaszewski, 2006)▷

HD 114762 discovery, probable brown dwarf (Latham et al., 1989)▷ non-detection of transits (Robinson et al., 1990)▷ confirmation of discovery orbit (Cochran et al., 1991)▷ radio emission (Bastian et al., 2000)▷ co-moving companion (Patience et al., 2002)▷ limits on radio emission (Farrell et al., 2004)▷ revised orbit and transit constraints (Kane et al., 2011c)▷ inclination effect on phase variations (Kane & Gelino, 2012a)▷

HD 114783 2-planet system; discovery of planet b (Vogt et al., 2002)▷ discovery of planet c (Bryan et al., 2016b)▷

HD 116029 2-planet system; discovery of planet b (Johnson et al., 2011a)▷ stellar multiplicity (Ngo et al., 2017)▷ discovery of planet c (Bryan et al., 2016b)▷

HD 117207 discovery (Marcy et al., 2005)▷ detection of stellar magnetic field (Fossati et al., 2013b)▷

HD 117618 discovery (Tinney et al., 2005)▷ high eccentricity as an artefact of unidentified multiple planets (Wittenmyer et al., 2013)▷

HD 118203 discovery (da Silva et al., 2006)▷

HD 120084 discovery (Sato et al., 2013a)▷

HD 121056 not in NASA; claimed 2-planet system from AAT observations (Wittenmyer et al., 2015)▷

HD 121504 discovery (Mayor et al., 2004)▷

HD 125595 discovery (Ségransan et al., 2011)▷

HD 125612 3-planet system; discovery of planet b (Fischer et al., 2007)▷ imaging of co-moving companion (Mugrauer & Neuhäuser, 2009)▷ discovery of planets c and d (Lo Curto et al., 2010)▷ super-Earth architecture explained by outer giant planet scattering (Huang et al., 2017b)▷

HD 126614 discovery (Howard et al., 2010)▷

HD 128311 2-planet system; discovery of planet b (Butler et al., 2003)▷ discovery of planet c in possible 2:1 resonance (Vogt et al., 2005)▷ alternative fit based on 1:1 resonance pair (Goździewski & Konacki, 2006)▷ dynamical evolution and migration (Sándor & Kley, 2006)▷ constraints on dust-producing planetesimals (Moro-Martín et al., 2010a)▷ dynamical evolution (Zhang et al., 2010)▷ analysis of radial velocity variations (Pál, 2010)▷ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)▷ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)▷ HST–FGS astrometry providing inclination, but not supporting resonance (McArthur et al., 2014)▷ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▷ reanalysis of radial velocity data and stability analysis (Rein, 2015)▷

HD 128356 discovery (Jenkins et al., 2017)▷

HD 129445 discovery (Arriagada et al., 2010)▷

HD 130322 discovery (Udry et al., 2000)▷ stellar magnetic field topology (Fares et al., 2013)▷ revised orbit new photometry and radial velocities, transit constraints, rotation from star spots (Hinkel et al., 2015a)▷ stellar wind properties, magnetic fields, bow shocks and radio emission (Vidotto et al., 2015)▷

HD 131496 discovery (Johnson et al., 2011a)▷

HD 131664 brown dwarf of $18-23 M_J$; discovery (Moutou et al., 2009b)▷ mass constrained by Hipparcos astrometry (Sozzetti & Desidera, 2010)▷ habitable zone (Kane & Gelino, 2012b)▷

HD 132406 discovery (da Silva et al., 2007)▷

HD 132563B planet orbiting one component of hierarchical triple system; discovery (Desidera et al., 2011)▷

HD 133131A and **HD 133131B** G2+G2 'twin' binary, 360 au separation, with 2 planets around A, and one around B; discovery (Teske et al., 2016b)▷

HD 134987 2-planet system; discovery of planet b (Vogt et al., 2000)▷ updated orbit (Butler et al., 2006b)▷ discovery of planet c (Jones et al., 2010)▷ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)▷

HD 136418 discovery (Johnson et al., 2010b)▷

HD 137388A discovery, and long-term stellar activity (Dumusque et al., 2011a)▷

HD 139357 discovery (Döllinger et al., 2009a)▷

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HD 141399 4-planet system; discovery, one of the first with APF (Vogt et al., 2014)⊳ improved orbit constraints (Hébrard et al., 2016)⊳ system is hierarchically AMD-stable (Laskar & Petit, 2017)⊳

HD 141937 discovery (Udry et al., 2002)⊳

HD 142022A high-eccentricity (e = 0.53) long-period (P ∼ 5 yr) planet in wide binary; discovery (Eggenberger et al., 2006)⊳

HD 142245 discovery (Johnson et al., 2011a)⊳ high-contrast imaging search for substellar companions (Mugrauer & Ginski, 2015)⊳

HD 142415 discovery (Mayor et al., 2004)⊳

HD 143105 discovery (Hébrard et al., 2016)⊳

HD 143361 discovery (Minniti et al., 2009)⊳ additional observations (Jenkins et al., 2017)⊳

HD 145377 discovery (Moutou et al., 2009b)⊳

HD 145457 discovery (Sato et al., 2010)⊳

HD 145934 discovery (Feng et al., 2015)⊳

HD 147018 2-planet system; discovery of planets b and c (Ségransan et al., 2010)⊳ dynamical stability (Elser et al., 2013)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

HD 147379* discovery with CARMENES (Reiners et al., 2018)⊳ confirmation with SOPHIE (Hobson et al., 2018)⊳

HD 147513 discovery (Udry et al., 2003b)⊳ discovery (Mayor et al., 2004)⊳ possible additional planets (Goździewski & Migaszewski, 2006)⊳ ^{6}Li/^{7}Li ratio (Ghezzi et al., 2009)⊳ mass constraints from Hipparcos (Reffert & Quirrenbach, 2011)⊳ stability of possible Trojan planets in habitable zone (Funk et al., 2012)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳ coronal structure (Alvarado-Gómez et al., 2016a)⊳ stellar wind and coronal heating (Alvarado-Gómez et al., 2016b)⊳ spectropolarimetric study of host star (Hussain et al., 2016)⊳

HD 147873 2-planet system; discovery (Jenkins et al., 2017)⊳

HD 148156 discovery (Naef et al., 2010)⊳

HD 148164* 2-planet system; discovery (Ment et al., 2018)⊳

HD 148284* discovery (Ment et al., 2018)⊳

HD 148427 discovery (Fischer et al., 2009)⊳

HD 149026 see transiting systems

HD 149143 discovery (Fischer et al., 2006)⊳ confirmation (da Silva et al., 2006)⊳

HD 150706 discovery (Udry et al., 2003b)⊳ published orbit (Boisse et al., 2012)⊳

HD 152079 discovery (Arriagada et al., 2010)⊳ additional observations (Jenkins et al., 2017)⊳

HD 152581 discovery (Johnson et al., 2011a)⊳

HD 153950 discovery (Moutou et al., 2009b)⊳

HD 154345 discovery (Wright et al., 2007)⊳ Jupiter-like planet and 9-yr stellar activity cycle (Wright et al., 2008)⊳ improved orbit (Boisse et al., 2012)⊳

HD 154672 discovery (López-Morales et al., 2008)⊳ additional observations (Jenkins et al., 2017)⊳

HD 154857 2-planet system; discovery of planet b, and evidence for planet c (McCarthy et al., 2004)⊳ evidence for planet c (O'Toole et al., 2007)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳ confirmation of planet c (Wittenmyer et al., 2014a)⊳

HD 155233 discovery (Wittenmyer et al., 2016a)⊳

HD 155358 2-planet system around low-metallicity star ([Fe/H = –0.68]; discovery of planets b and c (Cochran et al., 2007)⊳ consistency with a stable Kozai-resonant state (Libert & Tsiganis, 2009)⊳ analysis of radial velocity variations (Pál, 2010)⊳ revised analysis using EXOFIT (Balan & Lahav, 2011)⊳ revised period for planet c, indicating 2:1 resonance (Robertson et al., 2012a)⊳ 3d atmospheric circulation modeling (Medvedev et al., 2013)⊳ orbital evolution of a pair of giant planets in mean motion resonance (André & Papaloizou, 2016)⊳ orbital configuration and conditions for mean motion resonance (Ma et al., 2017)⊳ resonant structure, formation, and stability (Silburt & Rein, 2017)⊳

HD 156279 2-planet system; discovery of planet b (Díaz et al., 2012)⊳ discovery of planet c (Bryan et al., 2016b)⊳

HD 156411 discovery (Naef et al., 2010)⊳ thermal detection of long-period eccentric planets during pericentre passage with Spitzer and JWST (Kane & Gelino, 2011)⊳

HD 156668 discovery (Howard et al., 2011a)⊳ distinguishing true and alias periods using the Vuong test (Baluev, 2012)⊳ no evidence of transits from Spitzer (Kammer et al., 2014)⊳

HD 156846 high eccentricity (e = 0.85); discovery (Tamuz et al., 2008)⊳ orbit from photometry and Keck–HIRES monitoring (Kane et al., 2011d)⊳ thermal detection of long-period eccentric planets during pericentre passage with Spitzer and JWST (Kane & Gelino, 2011)⊳

HD 158038 discovery (Johnson et al., 2011a)⊳

HD 158996* discovery (Bang et al., 2018)⊳

HD 159243 2-planet system; discovery (Moutou et al., 2014b)⊳

HD 159868 2-planet system; discovery of planet b (O'Toole et al., 2007)⊳ discovery of planet c, and revised orbit for planet b (Wittenmyer et al., 2012b)⊳

HD 160691 see μ Ara

HD 162020 discovery (Udry et al., 2002)⊳ constraints on radio emission from GMRT (Winterhalter et al., 2005)⊳ inclination effect on phase variations (Kane & Gelino, 2012a)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

HD 163296 not in NASA; evidence for 2-planet system within the circumstellar disk from dynamical disk motion; time-variable self-shadowing of the disk in scattered light (Wisniewski et al., 2008)⊳ thermal disk structure from CO lines (Akiyama et al., 2011)⊳ detection of c-C_3H_2 with ALMA (Qi et al., 2013)⊳ mid-plane disk conditions from gas and dust modelling (Boneberg et al., 2016)⊳ increased H_2CO production in the outer disk (Carney et al., 2017)⊳ small-scale disk structure from ALMA (Isella et al., 2018)⊳ constraints on turbulence and embedded planet mass from planet–disk hydrodynamic simulations (Liu et al., 2018c)⊳ dust modeling of combined ALMA and VLT–SPHERE data (Muro-Arena et al., 2018)⊳ DCO^+ as a tracer of thermal inversion in the disk (Salinas et al., 2018)⊳ inner disk emission from VLTI and CHARA (Setterholm et al., 2018)⊳ kinematical detection of two embedded Jupiter-mass planets from gas rotation profile with ALMA (Teague et al., 2018)⊳

HD 163607 2-planet system, planet b of high eccentricity (e = 0.7); discovery of planets b and c (Giguere et al., 2012)⊳ dynamical stability (Elser et al., 2013)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳ dynamics of eccentric systems (Kane & Raymond, 2014)⊳

HD 164509 discovery of planet b, and evidence for planet c (Giguere et al., 2012)⊳ possible radio detection with GMRT (Sirothia et al., 2014)⊳ new stellar companion from Gemini–DSSI (Wittrock et al., 2016) stellar multiplicity (Ngo et al., 2017)⊳

HD 164595 discovery (Courcol et al., 2015)⊳

HD 164604 discovery (Arriagada et al., 2010)⊳

HD 164922 2-planet system; discovery of planet b (Butler et al., 2006b)⊳ discovery of planet c (Fulton et al., 2016)⊳

HD 165155 discovery (Jenkins et al., 2017)⊳

HD 166724 single massive planet of high eccentricity (e = 0.7); discovery (Marmier et al., 2013)⊳

HD 167042 discovery (Johnson et al., 2008a)⊳ confirmation (Sato et al., 2008b)⊳

HD 168443 2-planet system; discovery of planet b (Marcy et al., 1999)⊳ discovery of planet c (Marcy et al., 2001b)⊳ confirmation (Udry et al., 2002)⊳ dynamical stability of habitable zone (Érdi et al., 2004)⊳ planet b mass ($34M_J$) from Hipparcos astrometry (Reffert & Quirrenbach, 2006)⊳ proximity to resonance (Libert & Henrard, 2007)⊳ secular orbital dynamics (Veras & Ford, 2010)⊳ favourable for tests of solar spin–orbit coupling (Perryman & Schulze-Hartung, 2011)⊳ absence of non-grazing transit for planet b (Pilyavsky et al., 2011)⊳ dynamical stability (Elser et al., 2013)⊳ dynamics of eccentric systems (Kane & Raymond, 2014)⊳ limits on stellar companions to host stars with eccentric planets (Kane et al., 2014)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

HD 168746 discovery (Pepe et al., 2002)⊳ models of planet radius (Bodenheimer et al., 2003)⊳ post-Newtonian effects (Li, 2012)⊳ chromospheric activity (Kuznyetsova et al., 2014)⊳

HD 169830 2-planet system; stellar abundances (Santos et al., 2000a)⊳ discovery of planet b (Naef et al., 2001b)⊳ dynamical stability of habitable zone (Érdi et al., 2004)⊳ dynamical stability (Goździewski & Konacki, 2004)⊳ discovery of planet c (Mayor et al., 2004)⊳ proximity to resonance (Libert & Henrard, 2007)⊳ consistency with a stable Kozai-resonant state (Libert & Tsiganis, 2009)⊳ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)⊳

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HD 170469 discovery (Fischer et al., 2007)▷

HD 171028 discovery (Santos et al., 2007)▷ further observations with HARPS (Santos et al., 2011)▷

HD 171238 discovery (Ségransan et al., 2010)▷

HD 173416 discovery (Liu et al., 2009)▷

HD 175167 discovery (Arriagada et al., 2010)▷

HIP 175370 unconfirmed (not in NASA); discovery (Hrudková et al., 2017)▷

HD 175541 discovery (Johnson et al., 2007b)▷

HD 175607 discovery (Mortier et al., 2016)▷

HD 176986 2-planet system; discovery (Suárez Mascareño et al., 2018)▷

HD 177565 discovery (Feng et al., 2017a)▷

HD 177830 2-planet system; discovery of planet b (Vogt et al., 2000)▷ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)▷ improved orbit, and planet c (Meschiari et al., 2011)▷ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)▷ distant stellar companion not affecting dynamical evolution (Roberts et al., 2015b)▷

HD 178911B host star is distant component of hierarchical triple system; discovery (Zucker et al., 2002)▷

HD 179079 discovery (Valenti et al., 2009)▷

HD 179949 discovery (Tinney et al., 2001)▷ planet-induced chromospheric activity (Shkolnik et al., 2003)▷ orbit dependence of chromospheric activity and magnetic interaction (Shkolnik et al., 2005)▷ constraints on radio emission from GMRT (Winterhalter et al., 2005)▷ magnetic communication (Preusse et al., 2006)▷ constraints on atmospheric TiO and VO from VLT–CRIRES (Barnes et al., 2008a)▷ enhanced stellar magnetic activity due to close-in planet (Lanza, 2008)▷ planet-induced stellar X-ray activity from Chandra–ACIS-S (Saar et al., 2008)▷ magnetic interaction with host star (Kopp et al., 2011)▷ stellar magnetic field, differential rotation and chromospheric activity (Fares et al., 2012)▷ planet-induced emission due to star–planet interaction (Gurdemir et al., 2012)▷ stellar magnetic field topology (Fares et al., 2013)▷ simultaneous optical and X-ray spectroscopy disfavours star–planet interaction (Scandariato et al., 2013)▷ magnetic energy fluxes in sub-Alfvén planet–star and moon–planet interactions (Saur et al., 2013)▷ atmospheric CO and H_2O for non-transiting planet from VLT–CRIRES (Brogi et al., 2014)▷ time scales of radio emission variability (See et al., 2015)▷ stellar wind properties, magnetic fields, bow shocks and radio emission (Vidotto et al., 2015)▷ 3d atmospheric modeling and light curve (Jiménez-Torres, 2016)▷ stellar flares modeling due to star–planet magnetic field interaction (Lanza, 2018)▷

HD 180053* discovery (Luhn et al., 2018)▷

HD 180314 discovery (Sato et al., 2010)▷

HD 180617 not in NASA; high proper motion binary system containing the low mass star vB 10; Neptune mass planet from CARMENES (Kaminski et al., 2018)▷

HD 180902 discovery (Johnson et al., 2010b)▷

HD 181342 discovery (Johnson et al., 2010b)▷

HD 181433 3-planet system, all with high eccentricities; discovery of planets b, c, d (Bouchy et al., 2009)▷ revised orbits based on dynamic stability, with planets c and d in 5:2 resonance (Campanella, 2011)▷ eccentricities excited by ejection of additional giant planet (Campanella et al., 2013)▷

HD 181720 discovery (Santos et al., 2010)▷ further observations with HARPS (Santos et al., 2011)▷

HD 183263 2-planet system; discovery of planet b (Marcy et al., 2005)▷ discovery of planet c (Wright et al., 2009b)▷ secular evolution in second-order Hamiltonian expansion (Libert & Sansottera, 2013)▷ new radial velocities (Feng et al., 2015)▷

HD 185269 high-eccentricity (e = 0.3) hot Jupiter; discovery (Johnson et al., 2006a)▷ independent discovery (Moutou et al., 2006)▷

HD 187085 high-eccentricity 1000-d orbit; discovery (Jones et al., 2006)▷

HD 187123 2-planet system; discovery of planet b (Butler et al., 1998)▷ stellar abundances (Gonzalez et al., 1999)▷ tidal constraints on mass (Trilling, 2000)▷ indication of planet c (Vogt et al., 2000)▷ orbit confirmation (Naef et al., 2004)▷ confirmation of planet c (Wright et al., 2007)▷ dynamical stability (Elser et al., 2013)▷ new radial velocities (Feng et al., 2015)▷

HD 188015 discovery (Marcy et al., 2005)▷ possible additional planets (Goździewski & Migaszewski, 2006)▷ ejection of putative Earth-mass planets from habitable zone (Yeager et al., 2011)▷

HD 189733 see transiting systems

HD 190360 2-planet system; discovery of planet b (Naef et al., 2003)▷ discovery of planet b (Udry et al., 2003b)▷ discovery of planet c (Vogt et al., 2005)▷ possible additional planets (Goździewski & Migaszewski, 2006)▷ proximity to resonance (Libert & Henrard, 2007)▷ secular orbital dynamics (Veras & Ford, 2010)▷ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)▷ cyclic transit probabilities for long-period eccentric orbits due to apsidal precession (Kane et al., 2012)▷ dynamical stability (Elser et al., 2013)▷

HD 190647 discovery (Naef et al., 2007)▷

HD 190984 discovery (Santos et al., 2010)▷ further observations with HARPS (Santos et al., 2011)▷

HD 191806 discovery (Díaz et al., 2016a)▷

HD 192263 discovery (Santos et al., 2000b)▷ independent discovery (Vogt et al., 2000)▷ planet falsely attributed to stellar variability (Henry et al., 2002)▷ planet confirmation (Santos et al., 2003)▷ confirmation, stellar rotation, spots, and transit constraints (Dragomir et al., 2012a)▷

HD 192310 ≡ GJ 785; 2-planet system; discovery of planet b (Howard et al., 2011b)▷ discovery of planet c (Pepe et al., 2011)▷ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▷

HD 192699 discovery (Johnson et al., 2007b)▷

HD 195019 star is component of binary system; discovery (Fischer et al., 1999)▷ updated orbit (Vogt et al., 2000)▷ stability of orbits in binary systems (Musielak et al., 2005)▷

HD 196050 discovery (Jones et al., 2002a)▷ independent discovery (Udry et al., 2003b)▷ independent discovery (Mayor et al., 2004)▷ imaging of co-moving stellar companion (Mugrauer et al., 2005b)▷

HD 196067 discovery (Marmier et al., 2013)▷

HD 196885A discovery, and orbit constraints for HD 196885 B (Correia et al., 2008)▷ spectroscopy of HD 196885 B (Chauvin et al., 2007)▷ independent confirmation (Fischer et al., 2009)▷ co-moving nature and orbit curvature of HD 196885 B (Chauvin et al., 2011)▷ formation in accretion-hostile regions of binary systems (Thébault, 2011)▷ dynamical analysis (Giuppone et al., 2012)▷ planet formation in small separation binaries (Rafikov, 2013)▷ application of chaos indicators (Satyal et al., 2013)▷ chaotic and quasi-periodic phase space regions from MEGNO (Satyal et al., 2014)▷ habitable terrestrial planets in tight binary systems (Funk et al., 2015)▷ orbital dynamics and Lyapunov time (Melnikov, 2017)▷

HD 197037 discovery (Robertson et al., 2012a)▷ stellar companion from lucky imaging (Ginski et al., 2016) ▷

HD 200964 2-planet system; discovery of planets b and c, and proximity to a 4:3 resonance (Johnson et al., 2011b)▷ difficulty explaining 4:3 mean motion resonance (Rein et al., 2012)▷ stability and characterisation of 4:3 resonance (Wittenmyer et al., 2012a)▷ formation and evolution of 4:3 resonant system (Tadeu dos Santos et al., 2015)▷ orbital dynamics (Mia & Kushvah, 2016)▷

HD 202206 1- or 2-planet system orbiting a face-on G+M binary (1-planet system in NASA); inner is massive, outer less massive; stellar abundances (Santos et al., 2000a)▷ discovery of planet b, possible planet c, and possible formation scenarios (Udry et al., 2002)▷ discovery of planet c, in 5:1 resonance (Correia et al., 2005)▷ dynamical stability, and sensitivity to mutual inclinations (Goździewski et al., 2006)▷ dynamical stability (Libert & Henrard, 2007)▷ dynamical stability (Couetdic et al., 2010)▷ constraints on location of dust-producing planetesimals (Moro-Martín et al., 2010a)▷ astrometric modeling with HST–FGS (Benedict & Harrison, 2017)▷

HD 203473* discovery (Ment et al., 2018)▷

HD 204313 2- or 3-planet system (listed as 2-planet system in NASA); discovery of planet b (Ségransan et al., 2010)▷ discovery of planet c (Mayor et al., 2011)▷ proposed planet d, in 3:2 resonance with planet b (Robertson et al., 2012b)▷ confirmation and characterisation of planets b–c (Díaz et al., 2016b)▷

HD 204941 discovery, and long-term stellar activity (Dumusque et al., 2011a)▷

HD 205739 discovery (López-Morales et al., 2008)▷

HD 206610 discovery (Johnson et al., 2010b)▷

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HD 207832 2-planet system; discovery of planets b and c (Haghighipour et al., 2012)⊳ stellar multiplicity (Ngo et al., 2017)⊳

HD 208487 1- or 2-planet system (listed as 1-planet system in NASA); discovery of planet b (Tinney et al., 2005)⊳ possible additional planets (Goździewski & Migaszewski, 2006)⊳ proposed planet c (Gregory, 2007a)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳

HD 208527 planet orbiting M giant; discovery (Lee et al., 2013)⊳

HD 208897 discovery (Yılmaz et al., 2017)⊳

HD 209458 see transiting systems

HD 210277 discovery (Marcy et al., 1999)⊳ stellar abundances (Gonzalez et al., 1999)⊳ detection of debris disk with IRTF–CoCo (Trilling et al., 2000)⊳ stability of possible Trojan planets in habitable zone (Funk et al., 2012)⊳

HD 210702 discovery (Johnson et al., 2007b)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳

HD 211810* discovery (Ment et al., 2018)⊳

HD 212301 discovery (Lo Curto et al., 2006)⊳ imaging of co-moving companion (Mugrauer & Neuhäuser, 2009)⊳

HD 212771 discovery (Johnson et al., 2010b)⊳ K2 asteroseismology and mass determination (Campante et al., 2017)⊳

HD 213240 discovery (Santos et al., 2001)⊳ imaging of co-moving stellar companion (Mugrauer et al., 2005b)⊳ compositional diversity due to giant planet migration (Carter-Bond et al., 2012)⊳

HD 214823 discovery (Díaz et al., 2016a)⊳

HD 215152* 4-planet system; suggested discovery of planets b and c (Mayor et al., 2011) confirmation of planets b–e (Delisle et al., 2018)⊳

HD 215497 2-planet system; discovery of planets b and c (Lo Curto et al., 2010)⊳

HD 216435 ≡ τ^1 Gru; discovery (Jones et al., 2003)⊳

HD 216437 discovery (Jones et al., 2002a)⊳ independent discovery (Udry et al., 2003b)⊳ independent discovery (Mayor et al., 2004)⊳

HD 216536 discovery (Niedzielski et al., 2015b)⊳

HD 216770 discovery (Mayor et al., 2004)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳

HD 217107 2-planet system; discovery of planet b (Fischer et al., 1999)⊳ tidal constraints on mass (Trilling, 2000)⊳ updated orbit (Vogt et al., 2000)⊳ models of planet radius (Bodenheimer et al., 2003)⊳ discovery of planet c, and transit constraints (Vogt et al., 2005)⊳ dynamical stability (Libert & Henrard, 2007)⊳ ^{6}Li/^{7}Li ratio (Ghezzi et al., 2009)⊳ search for infrared emission with Gemini–Phoenix (Cubillos et al., 2011)⊳ Bayesian modeling (Tuomi et al., 2011)⊳ post-Newtonian effects (Li, 2012)⊳ stellar diameter (Boyajian et al., 2013)⊳ dynamical stability (Elser et al., 2013)⊳ new radial velocities (Feng et al., 2015)⊳

HD 217786 discovery (Moutou et al., 2011b)⊳ stellar companion from lucky imaging (Ginski et al., 2016) ⊳

HD 217850* discovery (Ment et al., 2018)⊳

HD 218566 discovery (Meschiari et al., 2011)⊳

HD 219077 discovery, and high eccentricity (0.77) (Marmier et al., 2013)⊳

HD 219134 see transiting systems

HD 219415 discovery (Gettel et al., 2012a)⊳

HD 219828 2-planet system; discovery of planet b, and evidence for planet c (Melo et al., 2007)⊳ chromospheric activity (Kuznyetsova et al., 2014)⊳ confirmation of planet c (Santos et al., 2016)⊳

HD 220074 planet orbiting an M giant; discovery (Lee et al., 2013)⊳

HD 220689 discovery (Marmier et al., 2013)⊳

HD 220773 discovery (Robertson et al., 2012a)⊳

HD 220842 discovery (Hébrard et al., 2016)⊳

HD 221287 discovery (Naef et al., 2007)⊳

HD 221585 discovery (Díaz et al., 2016a)⊳

HD 222076 discovery (Wittenmyer et al., 2017c)⊳

HD 222155 discovery of planet b, and suggestion of planet c (Boisse et al., 2012)⊳

HD 222582 discovery (Vogt et al., 2000)⊳

HD 224538 discovery (Jenkins et al., 2017)⊳

HD 224693 discovery (Johnson et al., 2006b)⊳

HD 231701 discovery (Fischer et al., 2007)⊳

HD 233604 planet orbiting at 0.75 au from K5 giant host, in engulfment zone; discovery (Nowak et al., 2013)⊳

HD 238914* discovery (Adamów et al., 2018)⊳

HD 240210 discovery of planet b, and evidence for others (Niedzielski et al., 2009b)⊳

HD 240237 discovery (Gettel et al., 2012b)⊳

HD 285507 first (eccentric) hot Jupiter in the Hyades open cluster; discovery (Quinn et al., 2014)⊳

HD 285968 ≡ GJ 176; discovery (P = 10.2 d) (Endl et al., 2008)⊳ P = 10.2 d confirmed (Butler et al., 2009)⊳ alternative fit to P = 8.8 d (Forveille et al., 2009)⊳ stellar diameter and temperature (von Braun et al., 2014)⊳ effects of stellar activity on radial velocity signal for M dwarfs (Robertson et al., 2015a)⊳ confirmation from CARMENES (Trifonov et al., 2018a)⊳ host star age from kinematics and α-element enrichment (Veyette & Muirhead, 2018)⊳

HD 290327 discovery (Naef et al., 2010)⊳

HD 330075 discovery (Pepe et al., 2004)⊳ measurement of ^{9}Be depletion (Delgado Mena et al., 2011)⊳

HIP (Hipparcos)

HIP 5158 2-planet system; discovery of planets b and c (Lo Curto et al., 2010)⊳ confirmation of planets b and c (Feroz et al., 2011a)⊳

HIP 8541 discovery (Jones et al., 2016b)⊳

HIP 11915 not in NASA; unconfirmed Jupiter twin around a solar twin (Bedell et al., 2015)⊳

HIP 11952 not in NASA; retracted system around a metal-poor star; claimed discovery of 2-planet system from FEROS (Setiawan et al., 2012)⊳ unconfirmed by HARPS/HARPS–N (Desidera et al., 2013)⊳ re-analysis of FEROS data invalidates original claim (Müller et al., 2013)⊳

HIP 12961 discovery (Forveille et al., 2011b)⊳

HIP 13044 not in NASA archive after planet's existence was questioned in 2014; suggested planet orbiting a metal-poor red horizontal branch star; discovery from FEROS (Setiawan et al., 2010)⊳ radial velocity contribution from tides (Arras et al., 2012)⊳ survival models (Passy et al., 2012)⊳ origin of planet orbit (Bear et al., 2011)⊳ origin of planet orbit (Tutukov & Fedorova, 2013)⊳ reanalysis of FEROS data does not confirm planet's existence (Jones & Jenkins, 2014)⊳

HIP 14810 3-planet system; discovery of planet b (Butler et al., 2006b)⊳ independent discovery of planet b, and discovery of planet c (Wright et al., 2007)⊳ discovery of planet d (Wright et al., 2009a)⊳ dynamical stability (Elser et al., 2013)⊳ hot Jupiter migration attributed to disk interactions (Wang et al., 2017a)⊳

HIP 57274 3-planet system; discovery of planets b, c, d (Fischer et al., 2012)⊳ dynamical stability (Elser et al., 2013)⊳ no evidence of transits from Spitzer (Kammer et al., 2014)⊳

HIP 63242 discovery (Jones et al., 2013)⊳

HIP 65407 2-planet system; discovery (Hébrard et al., 2016)⊳

HIP 65891 discovery (Jones et al., 2015b)⊳

HIP 67537 high-eccentricity planet at the planet/brown-dwarf boundary (e = 0.59, $M_{\rm p} \sin i = 11.1 M_{\rm J}$); discovery from CHIRON/FEROS (Jones et al., 2017)⊳

HIP 67851 2-planet system; discovery (Jones et al., 2015a)⊳ confirmation of planet c (Jones et al., 2015b)⊳

HIP 70849 discovery (Ségransan et al., 2011)⊳

HIP 74890 discovery (Jones et al., 2016b)⊳

HIP 75458 ≡ ι Dra; discovery (Frink et al., 2002)⊳ effect of stellar pulsations (Hekker et al., 2006)⊳ favourable transit potential (Kane et al., 2010)⊳ mass constraints from Hipparcos (Reffert & Quirrenbach, 2011)⊳ stellar parameters from CHARA interferometry (Baines et al., 2011)⊳ constraints on radio emission from LOFAR (O'Gorman et al., 2018)⊳

HIP 79431 discovery (Apps et al., 2010)⊳ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)⊳

HIP 91258 discovery (Moutou et al., 2014b)⊳

HIP 97233 discovery (Jones et al., 2015a)⊳

HIP 105854 discovery (Jones et al., 2014)⊳

HIP 107773 discovery (Jones et al., 2015b)⊳

HIP 109384 discovery (Hébrard et al., 2016)⊳

HIP 109600 discovery (Hébrard et al., 2016)⊳

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HR

HR 228 see HD 4732

HR 810 ≡ ι Hor ≡ HD 17051; discovery (Kürster et al., 2000)⊳ asteroseismology and fundamental star parameters (Laymand & Vauclair, 2007)⊳ an evaporated member of the primordial Hyades cluster (Vauclair et al., 2008)⊳ 1.6 year stellar magnetic activity cycle (Metcalfe et al., 2010)⊳ effects of stellar activity (Boisse et al., 2011)⊳

KELT

KELT–6 c see transiting systems

Kepler

Kepler–19 d see transiting systems

Kepler–20 g see transiting systems

Kepler–25 d see transiting systems

Kepler–48 e see transiting systems

Kepler–56 d see transiting systems

Kepler–68 d see transiting systems

Kepler–93 c see transiting systems

Kepler–94 c see transiting systems

Kepler–97 c see transiting systems

Kepler–407 c see transiting systems

Kepler–424 c see transiting systems

Kepler–432 c see transiting systems

Kepler–454 c see transiting systems

NGC/IC/Pr (Praesepe)

IC 4651 9122* member of open cluster IC 4651; discovery (Leão et al., 2018)⊳ planetary signal complicated by stellar radial velocity modulations (Delgado Mena et al., 2018)⊳

NGC 2682 Sand 364 member of open cluster NGC 2682 (M67); discovery (Brucalassi et al., 2014)⊳

NGC 2682 Sand 978 member of open cluster NGC 2682 (M67); discovery (Brucalassi et al., 2017)⊳

NGC 2682 YBP 401 member of open cluster NGC 2682 (M67); discovery (Brucalassi et al., 2016)⊳

NGC 2682 YBP 1194 member of open cluster NGC 2682 (M67); discovery (Brucalassi et al., 2014)⊳

NGC 2682 YBP 1514 member of open cluster NGC 2682 (M67); discovery (Brucalassi et al., 2014)⊳

NGC 2423 3 not in NASA; member of open cluster NGC 2423; claimed discovery (Lovis & Mayor, 2007)⊳ planetary signal complicated by stellar radial velocity modulations (Delgado Mena et al., 2018)⊳

NGC 4349 127 member of open cluster NGC 4349; discovery (Lovis & Mayor, 2007)⊳ planetary signal complicated by stellar radial velocity modulations (Delgado Mena et al., 2018)⊳

Pr 201 ≡ BD+20 2184; member of open cluster Praesepe (M44); discovery (Quinn et al., 2012b)⊳ stellar rotation (Kovács et al., 2014)⊳

Pr 211 2-planet system with eccentric outer planet (e = 0.71); member of open cluster Praesepe (M44); discovery of planet b (Quinn et al., 2012b)⊳ stellar rotation (Kovács et al., 2014)⊳ discovery of planet c (Malavolta et al., 2016)⊳ fly-by scenario can explain the eccentric outer planet (Pfalzner et al., 2018)⊳

TAP

TAP 26 discovery using Zeeman–Doppler imaging (Yu et al., 2017)⊳

TYC (Hipparcos/Tycho)

TYC 1240–945–1 not in NASA; retracted system (MARVELS–1); originally reported as a $28M_{\rm J}$ companion in a $P = 5.9$ d, $e \sim 0$ orbit (Lee et al., 2011b)⊳ subsequently reclassified as a face-on stellar binary in a 3–4 star system (Wright et al., 2013)⊳

TYC 1422–614–1 2-planet system; discovery of planets b and c (Niedzielski et al., 2015a)⊳

TYC 3318–01333–1* discovery (Adamów et al., 2018)⊳

TYC 3667–1280–1 massive red giant ($M_\star = 1.9M_\odot$) hosting a warm Jupiter (a = 0.21 au, $M_{\rm p} \sin i = 5.4M_{\rm J}$); discovery from HET–HRS and HARPS–N (Niedzielski et al., 2016b)⊳

TYC 4282–605–1 discovery (González-Álvarez et al., 2017)⊳

WASP

WASP–8 c see transiting systems

WASP–41 c see transiting systems

WASP–47 c see transiting systems

WASP–94B c see transiting systems

XO

XO–2S b,c see transiting systems

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Appendix D. Transiting exoplanets

This (updated) appendix includes objects appearing in the online NASA Exoplanet Archive as of 31 December 2018, along with a small number of other candidates or retracted systems. Objects indicated * are additions since publication of the Second Edition (itself complete to end 2017).

These notes list some key attributes of the system to underline its particular interest, give some indication of the attention the object has received (through the length of the bibliography), and provide a concise note on each paper to serve as a guide to the literature and a narrative of the progress in understanding the system. It makes no claim for completeness, and CDS–SIMBAD should be consulted for more details.

It includes only cross-identifications which are relevant in context, e.g., as used in the early discovery literature. CDS–SIMBAD or the NASA Exoplanet Archive should be consulted for other aliases. If a different alias was used in the NASA archive, this is explicitly noted.

Of the confirmed Kepler–NNN systems, the NASA Exoplanet Archive retains the KIC number, or the KOI number, as default identifier for a small number of systems. The listing here is according to the Kepler identifier.

The electronic version includes three classes of hyperlink: the object identifier (in bold) is linked to the host star page of the NASA Exoplanet Archive (it will be invalid if their syntax changes); each citation is linked to the bibliography; and the ⊳ icon following the citation links to the relevant ADS page.

Independent discoveries: For independent discoveries, the first reported is considered the 'primary' identifier:

primary:		secondary:
HAT–P–7	≡	Kepler–2
HAT–P–11	≡	Kepler–3
HAT–P–14	≡	WASP–27
HAT–P–27	≡	WASP–40
HAT–P–30	≡	WASP–51
HAT–P–56	≡	K2–20
KELT–14	≡	WASP–122
KELT–20	≡	MASCARA–2
K2–29	≡	WASP–152
TRAPPIST–1	≡	K2–112
TrES–2	≡	Kepler–1
WASP–11	≡	HAT–P–10
WASP–28	≡	K2–1
WASP–47	≡	K2–23
WASP–75	≡	K2–40
WASP–85A	≡	K2–94
WASP–107	≡	K2–235
WASP–151	≡	K2–134
WASP–157	≡	K2–41
WASP–167	≡	KELT–13

Systems discovered by radial velocity, but with one planet (indicated) which also transits. All references to the system are included here:

30 Ari B	planet b
55 Cnc	planet e
GJ 436	planet b
GJ 3470	planet b
HD 17156	planet b
HD 39091	planet c
HD 80606	planet b
HD 97658	planet b
HD 149026	planet b
HD 189733	planet b
HD 209458	planet b
HD 219134	planets b and c

Systems discovered by transit photometry, with additional planet(s) discovered through radial velocity measures. All references to the system are included here:

CoRoT–7	planet c
HAT–P–11	planet c
HAT–P–13	planet c
HAT–P–17	planet c
HAT–P–44	planet c
KELT–6	planet c
Kepler–19	planet d
Kepler–20	planet g
Kepler–25	planet d
Kepler–48	planet e
Kepler–56	planet d
Kepler–68	planet d
Kepler–93	planet c
Kepler–94	planet c
Kepler–97	planet c
Kepler–407	planet c
Kepler–424	planet c
Kepler–432	planet c
Kepler–454	planet c
K2–18	planet c
K2–96	planet d
WASP–8	planet c
WASP–41	planet c
WASP–47	planet c
WASP–94B	planet b
XO–2S	planets b and c

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Notes on individual systems

A. Radial velocity discoveries, subsequently found to transit

30 Ari B planet orbits one component of (2+2) quadruple stellar system; discovered by radial velocity (Guenther et al., 2009)▷ transits identified *a posteriori* in Hipparcos photometry (Kane et al., 2015a)▷ fourth stellar component (Roberts et al., 2015c)▷ secular dynamics modeled with the `SecularMultiple` nested binary algorithm (Hamers & Portegies Zwart, 2016)▷

55 Cnc ≡ HR 3522; 5-planet system, discovered by radial velocity, of which only planet e transits; discovery of planet b by radial velocity, evidence for planet c (Butler et al., 1997)▷ stellar properties (Baliunas et al., 1997)▷ circumstellar Vega-like disk from ISO (Dominik et al., 1998)▷ stellar parameters (Fuhrmann et al., 1998)▷ Be depletion in host star (Garcia Lopez & Perez de Taoro, 1998)▷ stellar parameters, $T_{\rm eff}$, $\log g$, [Fe/H] (Gonzalez & Vanture, 1998)▷ circumstellar Vega-like disk from infrared coronagraphy (Trilling & Brown, 1998)▷ **2000:** limits on radio emission from VLA (Bastian et al., 2000)▷ imaging of circumstellar disk (Trilling et al., 2000)▷ disk not verified with HST–NICMOS coronagraphy (Schneider et al., 2001)▷ disk not verified with JCMT–SCUBA (Jayawardhana et al., 2002)▷ mass constraints from HST–FGS astrometry (McGrath et al., 2002)▷ discovery of planets c and d (Marcy et al., 2002)▷ planets b and c in 3:1 resonance (Ji et al., 2003b)▷ habitability and orbit stability of Earth-type planets (von Bloh et al., 2003)▷ resonant capture within protoplanetary disk (Kley et al., 2004)▷ discovery of planet e (McArthur et al., 2004)▷ radial velocity observations with ELODIE (Naef et al., 2004)▷ **2005:** 3:1 resonance stability (Marzari et al., 2005)▷ resonance migration (Beaugé et al., 2006)▷ (a)symmetric 3:1 resonances (Voyatzis & Hadjidemetriou, 2006)▷ 3:1 resonance stability (Barnes & Greenberg, 2007)▷ evaporation of planet e, pre-discovery as transiting (Lecavelier des Etangs, 2007)▷ stability of test particles (Rivera & Haghighipour, 2007)▷ confirmation of planets c and d, and discovery of planet f (Fischer et al., 2008)▷ chaotic stability (Gayon et al., 2008)▷ Titius–Bode law and prediction of planet g (Poveda & Lara, 2008)▷ system stability (Raymond et al., 2008)▷ planets b and c not in resonance (Voyatzis, 2008)▷ limits on polarised light (Lucas et al., 2009)▷ **2010:** period ambiguity of planet d and revised period for planet e (Dawson & Fabrycky, 2010)▷ drag-induced resonant capture in a multi-planet scenario (de la Fuente Marcos & de la Fuente Marcos, 2010)▷ **2011:** magnetic drag and Ohmic dissipation (Castan & Menou, 2011)▷ detection of planet e transits with Spitzer (Demory et al., 2011a)▷ dynamical stability, coplanar orbits probably inclined to stellar equator (Kaib et al., 2011)▷ atmospheric modeling of planet e from photometric phase curves (Kane et al., 2011b)▷ stellar properties and improved radius for planet e from interferometry (von Braun et al., 2011b)▷ detection of planet e transits with MOST (Winn et al., 2011c)▷ **2012:** true and alias periods using the Vuong test (Baluev, 2012)▷ elliptical instability of planet e due to tides, precession/nutation, and libration (Cebron et al., 2012)▷ brightness temperature of planet e from stellar calibration (Crossfield, 2012)▷ Titius–Bode law (Cuntz, 2012)▷ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)▷ detection of planet e transits with Spitzer (Demory et al., 2012)▷ extended atmosphere of planet e from HST–STIS and Chandra (Ehrenreich et al., 2012)▷ mass of planet e from improved radial velocity (Endl et al., 2012)▷ improved radius of planet e from Spitzer/MOST (Gillon et al., 2012a)▷ atmospheric stability under tidal locking (Heng & Kopparla, 2012)▷ C-rich interior of planet e from structure models (Madhusudhan et al., 2012)▷ capture into spin–orbit resonance (Rodríguez et al., 2012)▷ dynamical modeling (Van Laerhoven & Greenberg, 2012)▷ **2013:** tidal dissipation and eccentricity pumping of planet e (Bolmont et al., 2013)▷ chaotic rotation around synchronous state driven by tidal torque and asymmetric figure (Callegari & Rodríguez, 2013)▷ hydrodynamic blow-off of atmospheric H (Lammer et al., 2013)▷ simulated direct detection of reflected light of planet e via high-resolution spectroscopy (Martins et al., 2013)▷ host star C/O abundance (Teske et al., 2013a)▷ **2014:** Rossiter–McLaughlin effect of planet e from HARPS–N at $0.6\,{\rm m\,s^{-1}}$ indicates prograde polar orbit (Bourrier & Hébrard, 2014)▷ ground-based transit detections of planet e with NOT–ALFOSC (de Mooij et al., 2014)▷ MOST photometry (Dragomir et al., 2014)▷ C_2H_2 at 1.0–1.5 and 9–14 μm as a diagnostic for hydrocarbon-rich atmospheres (Hu & Seager, 2014)▷ no Rossiter–McLaughlin effect for planet e from HARPS–N at $0.35\,{\rm m\,s^{-1}}$ (López-Morales et al., 2014)▷ N-body constraints and dynamical analysis (Nelson et al., 2014)▷ **2015:** Doppler noise and 13-yr activity cycle (Baluev, 2015)▷ tidal evolution and passage through secular resonances (Hansen & Zink, 2015)▷ measures for characterising H_2O-rich super-Earths (Madhusudhan & Redfield, 2015)▷ gyrochronology and isochrone ages (Maxted et al., 2015)▷ **2016:** constraining the volatile fraction from transit observations (Alibert, 2016)▷ map of the large day–night temperature gradient (Demory et al., 2016a)▷ variability in dayside thermal emission (Demory et al., 2016a)▷ favourable for lightning-discharge studies during transit (Hodosán et al., 2016a)▷ exosphere transit models compared with solar data from SDO (Llama & Shkolnik, 2016)▷ limits on Na and Ca from transmission spectrum with VLT–UVES, HARPS/HARPS–N (Ridden-Harper et al., 2016)▷ possible HCN detection from HST–WFC3 (Tsiaras et al., 2016a)▷ **2017:** Spitzer phase curve favours an atmosphere (Angelo & Hu, 2017)▷ Bayesian analysis of interior structure using stellar abundance proxies (Dorn et al., 2017)▷ limits on H_2O-vapour from Subaru–HDS and CFHT–ESPaDOnS (Esteves et al., 2017)▷ climate and thermal phase curve (Hammond & Pierrehumbert, 2017)▷ search utilising compressed sensing techniques (Hara et al., 2017)▷ system is hierarchically AMD-stable (Laskar & Petit, 2017)▷ probable formation of planet e from H_2O-poor material within the snow line (Lopez, 2017)▷ cloud formation in metal-rich atmospheres (Mahapatra et al., 2017)▷ transit photometry using beam-shaping diffusers (Stefansson et al., 2017)▷ **2018:** prediction of 7 missing planets from Titius–Bode law (Aschwanden, 2018)▷ far-UV chromospheric variability traces planet-induced coronal rain (Bourrier et al., 2018b)▷ host star rotation over 20 yr, and revised system properties (Bourrier et al., 2018a)▷ mass, radius, and composition of planet e from interferometry (Crida et al., 2018)▷ bulk density dependent on high-temperature condensates (Dorn et al., 2018a)▷ confirmed variability in secondary eclipse depth of planet e from Spitzer (Tamburo et al., 2018)▷

GJ 436 M dwarf with one confirmed Neptune-mass planet (of high eccentricity) and two unconfirmed planets; radial velocity discovery with Keck–HIRES, and absence of photometric variability (Butler et al., 2004)▷ secondary eclipse and orbit from Spitzer–IRAC, possible planet c (Deming et al., 2007a)▷ characterisation with Spitzer and ground-based observations (Demory et al., 2007)▷ optical transit detected at 0.6-m OFXB, and constraints on composition (H_2O-ice+H/He layer) (Gillon et al., 2007b)▷ transit detection of planet b with Spitzer–IRAC (Gillon et al., 2007a)▷ composition from evaporation status (Lecavelier des Etangs, 2007)▷ parameters from stellar modeling (Maness et al., 2007)▷ parameters from stellar modeling (Torres, 2007b)▷ second planet unconfirmed by photometry (Alonso et al., 2008b)▷ transit photometry with HST–FGS (Bean et al., 2008a)▷ proposed orbit model for planet c considered implausible (Bean & Seifahrt, 2008)▷ trend in transit parameters from ground photometry support planet c (Coughlin et al., 2008)▷ planet c inferred from perturbed orbit of (near-grazing incidence) planet b, explaining large e (Ribas et al., 2008)▷ homogeneous analysis and light curve properties (Southworth, 2008)▷ second planet hypothesised to maintain eccentricity (Batygin et al., 2009)▷ limits on transit time variations (Cáceres et al., 2009)▷ composition modeling (Figueira et al., 2009)▷ constraints on Trojan companions (Madhusudhan & Winn, 2009)▷ improved transit photometry from HST–NICMOS and limits on transit time variations (Pont et al., 2009a)▷ stellar proper motion and transit timing (Rafikov, 2009)▷ homogeneous analysis: physical properties (Southworth, 2009)▷ **2010:** search for planetary companions (Ballard et al., 2010a)▷ EPOXI photometry transit limits of planet c, and star spots (Ballard et al., 2010b)▷ atmospheric circulation models (Lewis et al., 2010)▷ composition modeling (Nettelmann et al., 2010)▷ interior composition (Rogers & Seager, 2010a)▷ homogeneous analysis: additional planets and stellar models (Southworth, 2010)▷ atmospheric modeling of $CO/CH_4/H_2O/CO_2$ from Spitzer secondary eclipse (Stevenson et al., 2010)▷ **2011:** CH_4 inferred from multi-wavelength photometry (Beaulieu et al., 2011)▷ heavy-element composition of disk-instability planets (Boley et al., 2011)▷ atmospheric CH_4 (Beaulieu et al., 2011)▷ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▷ outlier in heat redistribution attributed to eccentric orbit (Cowan & Agol, 2011b)▷ exospheric Lyα absorption from HST–STIS (Ehrenreich et al., 2011)▷ absence of molecular features from HST–NICMOS re-analysis (Gibson et al., 2011)▷ modeling of tidal Love number (Kramm et al., 2011)▷ stellar variability and dayside flux variations (Knutson et al., 2011)▷ CH_4 abundance under ultraviolet irradiation (Line et al., 2011)▷ atmospheric modeling from Spitzer: non-equilibrium chemistry (Madhusudhan & Seager, 2011)▷ secondary eclipse modeling with JWST predictions (Shabram et al., 2011)▷ **2012:** Rossiter–McLaughlin effect from Magellan, Keck, effect of star–planet tidal interactions on obliquities (Albrecht et al., 2012b)▷ Kozai resonance as an explanation for high eccentricity of planet b (Beust et al., 2012)▷ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)▷ atmospheric stability under tidal locking (Heng & Kopparla, 2012)▷ post-Newtonian effects (Li, 2012)▷ two additional transiting planets (c and d) suggested from Spitzer (Stevenson et al., 2012b)▷ stellar diameter from CHARA (von Braun et al., 2012)▷ **2013:** ultraviolet radiation environment (France et al., 2013)▷ atmospheric disequilibrium diagnostics and C/O (Line & Yung, 2013)▷ atmospheric composition as a function of temperature, metallicity and C/O ratio (Moses et al., 2013a)▷ Doppler signatures of atmospheric circulation (Showman et al., 2013)▷ **2014:** models favour high metallicity, high CO/CH_4 ratio, and efficient tidal heating (Agúndez et al., 2014b)▷ extended Ly-α transit from HST–STIS suggests comet-like tail (Kulow et al., 2014)▷ featureless transmission spectrum ruling out cloud-free, H-dominated atmosphere (Knutson et al., 2014a)▷ systematic atmospheric retrieval analysis (Line et al., 2014)▷ metal-rich atmosphere depleted in CH_4 and enhanced in CO/CO_2 (Lanotte et al., 2014)▷ orbital dynamics and prediction of transit time variations for planet c (Maciejewski et al., 2014a)▷ no sub-Earth transiting companion from HST–WFC3 (Stevenson et al., 2014a)▷ location in Spitzer 3.6/4.5 μm colour–magnitude diagram (Triaud, 2014)▷ **2015:** compilation of light curves and transit timing (Baluev et al., 2015)▷ low CH_4/CO_2 ratio from carbonaceous refractory matter by impacting micrometeorites (Dangi et al., 2015)▷ giant comet-like cloud of escaping H (Ehrenreich et al., 2015)▷ He atmospheres (Hu et al., 2015b)▷ revisiting Spitzer transit observations (Morello et al., 2015)▷ effect of Ly-α radiation on mini-Neptune atmospheres around M stars (Miguel et al., 2015)▷ **2016:** stellar wind interactions from HST–STIS (Bourrier et al., 2016)▷ extreme ultraviolet flux and the escaping atmosphere (Guo & Ben-Jaffel, 2016)▷ exosphere transit models compared with solar data from SDO (Llama & Shkolnik, 2016)▷ atmospheric escape of hot gas coupling plasma, photoionisation and Ly-α (Salz et al., 2016)▷ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)▷ **2017:** search for Hα absorption (Cauley et al., 2017b)▷ extended egress over 10–25 h in Ly-α from HST–STIS (Lavie et al., 2017a)▷ forward/inverse modeling of emission and transmission spectrum (Morley et al., 2017a)▷ ultraviolet C II and Si III transit spectroscopy with HST–COS (Parke Loyd et al., 2017)▷ probe of host star wind (Vidotto & Bourrier, 2017)▷ **2018:** HST–STIS 0.53–1.03 μm transit spectrum (Lothringer et al., 2018)▷ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ high obliquity from photospheric spectral mapping during transit (Bourrier et al., 2018c)▷ HST–STIS optical transmission (Lothringer et al., 2018)▷ cloud-top heights constrained by microphysical model of mineral clouds (Ohno & Okuzumi, 2018)▷ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)▷ visual-channel radial-velocities and orbit updates from CARMENES(Trifonov et al., 2018a)▷ chemo-kinematic ages of eccentric-planet-hosting M dwarfs (Veyette & Muirhead, 2018)▷

GJ 3470 discovered by radial velocity (ESO–HARPS), with transits from ESO–TRAPPIST (Bonfils et al., 2012)▷ flat atmospheric transmission spectrum from Keck–MOSFIRE (Crossfield et al., 2013)▷ transit photometry and secondary eclipse from Spitzer–IRAC (Demory et al., 2013b)▷ cloud-free atmosphere from optical to near-infrared transit with Okayama (Fukui et al., 2013)▷ atmospheric scattering from ultraviolet and near infrared transits with LBT (Nascimbeni et al., 2013b)▷ revised star and planet parameters from optical to near-infrared transits (Biddle et al., 2014)▷ flat transmission spectrum from 1–5 μm from HST–WFC3 (Ehrenreich et al., 2014)▷ metallicity and temperature effects on CH_4/CO (Venot et al., 2014)▷ atmospheric Rayleigh scattering (Dragomir et al., 2015)▷ transit timing variation and transmission spectroscopy (Awiphan et al., 2016)▷ atmospheric escape coupling plasma, photoionisation and Ly-α emission (Salz et al., 2016)▷ spectrally resolved Rayleigh scattering slope from GTC–OSIRIS (Chen et al., 2017a)▷ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)▷

HD 17156 long-period (21.2 d) and high eccentricity (e = 0.67); discovery from radial velocity with N2K–Subaru (Fischer et al., 2007)▷ transits detected (Barbieri et al., 2007)▷ Rossiter–McLaughlin effect (Cochran et al., 2008)▷ improved transit photometry (Gillon et al., 2008)▷ theoretical infrared light curves (Irwin et al., 2008)▷ Rossiter–McLaughlin effect from OAO–HIDES, later superseded (Narita et al., 2008)▷ transits and Rossiter–McLaughlin effect from TNG–SARG (Barbieri et al., 2009)▷ atmospheric modeling (Koskinen et al., 2009)▷ Rossiter–McLaughlin effect from Subaru–HDS (Narita et al., 2009a)▷ stellar proper motion and transit timing (Rafikov, 2009)▷ transit measurements and prediction of secondary eclipse (Winn et al., 2009b)▷ time-dependent atmospheric model for eccentric orbits (Iro & Deming, 2010)▷ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▷ asteroseismology from HST–FGS (Gilliland et al., 2011)▷ transits from HST–FGS (Nutzman et al., 2011b)▷ photometry and new spectroscopy (Southworth, 2011)▷ eccentricity from photo-eccentric effect (Dawson & Johnson, 2012)▷ asteroseismology and age determination (Lebreton, 2012)▷ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)▷ optical and X-ray observations of star–planet interaction (Maggio et al., 2015)▷ stellar flares modeling due to star–planet magnetic field interaction (Lanza, 2018)▷

HD 80606 planet orbits one component of wide (2000 au) binary (HD 80606/HD 80607), high eccentricity (e = 0.933), and transits host star over ~12 h; radial velocity discovery and high eccentricity (Naef et al., 2001a)▷ planet orbit may originate from Kozai resonance/migration (Wu & Murray, 2003)▷ detection by UCL observatory (Fossey et al., 2009)▷ detection by Esteve Duran observatory (Garcia-Melendo & McCullough, 2009)▷ detection of secondary eclipse from Spitzer and planet heating from pericentre photometry (Laughlin et al., 2009)▷ independent transit detection by three groups: OHP/SOPHIE (Moutou et al., 2009a)▷ Rossiter–McLaughlin effect (Pont et al., 2009b)▷ orbit constraints from transit ingress (Winn et al., 2009c)▷ transit observations with Spitzer and SOPHIE (Hébrard et al., 2010b)▷ multi-site transit coverage (Hidas et al., 2010)▷ full 12-hr transit observed by Spitzer and OHP–SOPHIE (Hébrard et al., 2010b)▷ time-dependent atmospheric model for eccentric orbits (Iro & Deming, 2010)▷ constraints on radio emission at pericentre from VLA (Lazio et al., 2010)▷ multi-site transit coverage (Shporer et al., 2010)▷ transit time variations in eccentric hierarchical triple systems, Kozai cycles and tidal friction (Borkovits et al., 2011)▷ tidal evolution (Correia et al., 2011)▷ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▷ outlier in heat redistribution attributed to eccentric orbit (Cowan & Agol, 2011b)▷ photometry and new spectroscopy (Southworth, 2011)▷ limits on atmospheric K (Colón et al., 2012)▷ habitable zone for eccentric orbits (Kane & Gelino, 2012b)▷ 12-hr transit observed by MOST (Roberts et al., 2013)▷ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)▷ polarisation with POLISH–2 (Wiktorowicz & Laughlin, 2014)▷ atmospheric radiative and dynamical time scales from periastron passage observations with Spitzer (de Wit et al., 2016a)▷ no evidence for star–planet interaction at pericentre passage (Figueira et al., 2016)▷ detailed chemical abundances from Keck–HIRES (Mack et al., 2016)▷ formation by stellar perturbations (Shara et al., 2016)▷ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ chemical composition of the wide stellar binary and constraints on planet formation (Liu et al., 2018a)▷ planet radii in the presence of star spots from ingress and egress durations (Morris et al., 2018d)▷

HD 97658 radial velocity discovery with Keck–HIRES (Howard et al., 2011b)▷ transit detection, unpublished (Henry et al., 2011)▷ transit not confirmed by MOST (Dragomir et al., 2012b)▷ transit detection by MOST (Dragomir et al., 2013)▷ C_2H_2 at 1.0–1.5 and 9–14 μm as diagnostic for hydrocarbon-rich atmospheres (Hu & Seager, 2014)▷ transmission spectrum from HST–WFC3 (Knutson et al., 2014b)▷ orbit parameters versus atmospheric species (Miguel & Kaltenegger, 2014)▷ transit confirmation from Spitzer (Van Grootel et al., 2014)▷ limits on H-exosphere from HST–STIS, Chandra and XMM–Newton (Bourrier et al., 2017d)▷ Bayesian analysis of interior structure using stellar abundance proxies (Dorn et al., 2017)▷

HD 149026 small hot Saturn-mass (0.37M_J) planet; radial velocity discovery with N2K–Subaru, transit detection, heavy element core (Sato et al., 2005)▷ constraints on Li and K (Bozorgnia et al., 2006)▷ transits and heavy core (Charbonneau et al., 2006)▷ atmosphere and interior models (Fortney et al., 2006)▷ possible origin of the massive core (Ikoma et al., 2006)▷ possible origin of the massive core (Broeg & Wuchterl, 2007)▷ secondary eclipse and high brightness temperature (Harrington et al., 2007)▷ Rossiter–McLaughlin effect (Wolf et al., 2007)▷ homogeneous analysis and light curve properties (Southworth, 2008)▷ 5 transits from Fairborn (Winn et al., 2008a)▷ 4 near infrared transits from HST–NICMOS (Carter et al., 2009)▷ for-

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mation and migration (Dodson-Robinson & Bodenheimer, 2009)▷ secondary eclipse depth and infrared phase variations from Spitzer–IRAC (Knutson et al., 2009b)▷ radius from Spitzer transits (Nutzman et al., 2009)▷ stellar proper motion and transit timing (Rafikov, 2009)▷ homogeneous analysis: physical properties (Southworth, 2009)▷ homogeneous analysis and light curve properties (Southworth, 2010)▷ heavy-element composition of disk-instability planets (Boley et al., 2011)▷ alkali line absorption in Na I and K I (Jensen et al., 2011)▷ 3 transits and 11 secondary eclipses from Spitzer favour high CO and CO_2 (Stevenson et al., 2012a)▷ atmospheric disequilibrium diagnostics (Line & Yung, 2013)▷ atmospheric heat redistribution efficiency drops as stellar insolation rises (Perez-Becker & Showman, 2013)▷ systematic atmospheric retrieval analysis (Line et al., 2014)▷ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)▷ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ correlation between phase curve offset and irradiation temperature (Zhang et al., 2018a)▷

HD 189733 $1.1M_J$ planet orbiting nearby (19 pc) K0 star at $a = 0.03$ au, host star is primary of a binary system, secondary is an M dwarf at 216 au; radial velocity discovery with OHP–ELODIE, and transit discovery (Bouchy et al., 2005b)▷ **2006:** identification of secondary M dwarf at 216 au (Bakos et al., 2006b)▷ multicolour photometry, transit parameters (Bakos et al., 2006a)▷ prominent secondary eclipse from Spitzer (Deming et al., 2006)▷ *a posteriori* transit detection in Hipparcos photometry (Hébrard & Lecavelier des Etangs, 2006)▷ Rossiter–McLaughlin effect ($\lambda = -1.4°$) from Keck–HIRES (Winn et al., 2006)▷ **2007:** stellar angular diameter from CHARA ($R = 1.2R_J$ and $\rho = 0.9\,\mathrm{Mg\,m^{-3}}$) (Baines et al., 2007)▷ limits on H_2O and CO absorption at 2.0–2.4 μm from Keck–NIRSPEC (Barnes et al., 2007a)▷ transit detection limits of $2R_\oplus$ from 21 d of MOST (Croll et al., 2007b)▷ limits on atmospheric H_2O from Spitzer–IRAC (Ehrenreich et al., 2007)▷ flat atmospheric spectrum (7.5–14.7 μm) from Spitzer (Grillmair et al., 2007)▷ energy redistribution from irradiated day-side (Knutson et al., 2007a)▷ strong complex stellar magnetic field from Zeeman signature in CFHT–ESPaDOnS polarimetry (Moutou et al., 2007)▷ star spots, with no evidence for satellites or rings from HST–ACS (Pont et al., 2007a)▷ H_2O absorption (Tinetti et al., 2007)▷ quasi-periodic flux variations with 13.4 d period attributed to stellar rotation (Winn et al., 2007c)▷ **2008:** polarised scattered light of amplitude 2×10^{-4} (Berdyugina et al., 2008)▷ H_2O detection and circulation models from Spitzer (Barman, 2008)▷ transits at 3.6 and 5.8 μm with Spitzer–IRAC suggest sub-micron particle haze (Beaulieu et al., 2008)▷ two secondary eclipses from Spitzer show 4 μm opacity and no temperature inversion (Charbonneau et al., 2008)▷ strong H_2O absorption in day-side emission spectrum (Grillmair et al., 2008)▷ host star rotation period $P = 11.953 \pm 0.009$ d (Henry & Winn, 2008)▷ enhanced stellar magnetic activity due to close-in planet (Lanza, 2008)▷ Rayleigh scattering by $MgSiO_3$ (0.55–1.05 μm) gives $T_{\rm atm} = 1340$ K (Lecavelier des Etangs et al., 2008a)▷ 10 transits over 21 d by MOST and limits on transit time variations (Miller-Ricci et al., 2008a)▷ featureless transmission spectrum from HST–ACS (Pont et al., 2008a)▷ Na I doublet absorption with HET–HRS (Redfield et al., 2008)▷ H_2O and CH_4 absorption from secondary eclipse with HST–NICMOS (Swain et al., 2008b)▷ 3d simulations of atmospheric circulation (Showman et al., 2008)▷ linear polarisation attributed to thin cloud of sub-μm dust grains (Sengupta, 2008)▷ homogeneous analysis and light curve properties (Southworth, 2008)▷ **2009:** stellar activity and stellar rotation from OHP–SOPHIE (Boisse et al., 2009)▷ constraints on CO from Spitzer–IRAC (Désert et al., 2009)▷ constraints on day-night circulation from Spitzer–MIPS at 24 μm (Knutson et al., 2009c)▷ limits on radio emission at 244 and 614 MHz from GMRT (Lecavelier des Etangs et al., 2009)▷ abundances and minimum mass of heavy elements (Mousis et al., 2009)▷ stellar proper motion and transit timing (Rafikov, 2009)▷ homogeneous analysis: physical properties (Southworth, 2009)▷ Rayleigh scattering by sub-micron haze particles with no H_2O from HST–NICMOS (Sing et al., 2009)▷ H_2O, CO, CO_2 required to explain near-infrared day-side spectrum from HST–NICMOS (Swain et al., 2009b)▷ 3d simulations coupling atmospheric dynamics to cloud-free radiative transfer (Showman et al., 2009)▷ limits on 307–347 MHz radio emission during secondary eclipse from NRAO (Smith et al., 2009a)▷ Rossiter–McLaughlin effect from ESO–HARPS (Triaud et al., 2009)▷ non-detection of polarised scattered light from POLISH (Wiktorowicz, 2009)▷ **2010:** atmospheric modeling from six transits and six eclipses with Spitzer–IRAC (Agol et al., 2010)▷ constraints on H_2O and other molecules from Keck–NIRSPEC (Barnes et al., 2010)▷ inflation through Ohmic dissipation (Batygin & Stevenson, 2010)▷ line profile tomography probing star and planet rotations and orbit (Collier Cameron et al., 2010a)▷ atmospheric models and the effects of TiO, VO, CO, CH_4 (Fortney et al., 2010)▷ no evidence of star–planet magnetospheric interactions from CFHT polarimetry (Fares et al., 2010)▷ constraints on companions from transit time variations with NOT/WHT (Hrudková et al., 2010)▷ effect of night-side pollution on transit depth (Kipping & Tinetti, 2010)▷ high-temperature photochemistry and CH_4, CO_2, CO, and H_2O abundances (Line et al., 2010)▷ evaporation rates (Lecavelier des Etangs, 2010)▷ observation with digital SLR cameras (Littlefield, 2010)▷ Ohmic dissipation (Perna et al., 2010b)▷ X-ray detection during transits probing coronal–magnetospheric structure from XMM–Newton (Pillitteri et al., 2010)▷ ground-based near-infrared emission spectrum from IRTF–SpeX (Swain et al., 2010)▷ homogeneous analysis and light curve properties (Southworth, 2010)▷ **2011:** stellar limb darkening from multicolour light curves (Abubekerov et al., 2011)▷ disentangling planetary signals from stellar activity (Boisse et al., 2011)▷ re-confirmation of polarised reflected light from multicolour observations (Berdyugina et al., 2011)▷ reflection effect (Budaj, 2011)▷ time-dependent magnetohydrodynamic simulation of interplanetary environment (Cohen et al., 2011)▷ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▷ directed follow-up approach for transit detection using low-cadence surveys (Dzigan & Zucker, 2011)▷ transit parameters at 3.6 μm from Spitzer–IRAC (Désert et al., 2011d)▷ mass loss from extreme ultraviolet and X-ray radiation (Ehrenreich & Désert, 2011)▷ limits on molecular features from archival HST–NICMOS transmission spectroscopy (Gibson et al., 2011)▷ mass-loss rates consistent with an atomic hydrogen/proton mixture (Guo, 2011)▷ alkali line absorption in Na I and K I (Jensen et al., 2011)▷ polarisation studies (Kostogryz et al., 2011)▷ radial velocity variations due to stellar activity from MOST/SOPHIE photometry (Lanza et al., 2011a)▷ limits on 150 MHz radio emission from GMRT (Lecavelier des Etangs et al., 2011)▷ determination of planet albedo from Subaru (Langford et al., 2011)▷ volatile enrichment and heavy elements (Mousis et al., 2011)▷ limits on 3.25 μm line emission from Keck–NIRSPEC (Mandell et al., 2011)▷ disequilibrium C, O, and N chemistry, and enhanced abundances of CH_4, NH_3, and HCN (Moses et al., 2011)▷ X-ray activity when planet close to active stellar regions from XMM–Newton (Pillitteri et al., 2011)▷ equatorial superrotation (Showman & Polvani, 2011)▷ high-altitude haze from optical/near-ultraviolet transmission spectroscopy with HST–STIS (Sing et al., 2011b)▷ effects of CH_4 quenching (Visscher & Moses, 2011)▷ **2012:** effects of stellar activity (Aigrain et al., 2012)▷ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)▷ secondary eclipse scanning from archival Spitzer–IRAC (de Wit et al., 2012)▷ modeling of archival HST–NICMOS transmission spectroscopy (Gibson et al., 2012b)▷ effect of tidal locking on magnetospheric and atmospheric evolution (Gibson et al., 2012a)▷ effect of clouds and hazes (Heng et al., 2012)▷ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▷ temperature-pressure profile and upper atmospheric heating from HST–STIS Na I doublet (Huitson et al., 2012)▷ limb darkening coefficients from 3d stellar atmosphere fits to HST data (Hayek et al., 2012)▷ Hα in the transmission spectrum (Jensen et al., 2012)▷ non-equilibrium chemistry from 3.6 and 4.5 μm Spitzer phase curves (Knutson et al., 2012)▷ variation in evaporation from Ly-α transmission spectroscopy with HST–STIS (Lecavelier des Etangs et al., 2012)▷ atmospheric structure and composition from secondary eclipse spectroscopy (Lee et al., 2012c)▷ secondary eclipse map and location of day-side hot spot from Spitzer–IRAC (Majeau et al., 2012)▷ ground-based near-infrared emission spectrum from IRTF–SpeX (Waldmann et al., 2012)▷ atmospheric chemistry (Venot et al., 2012)▷ **2013:** atmospheric escape in Ly-α from HST–STIS (Bourrier et al., 2013)▷ neutral oxygen at 130 nm with HST–COS (Ben-Jaffel & Ballester, 2013)▷ 3d model of H escape (Bourrier & Lecavelier des Etangs, 2013)▷ H_2O absorption in day-side atmosphere at 3.2 μm from VLT–CRIRES (Birkby et al., 2013)▷ planet mass determination from atmospheric scale height (de Wit & Seager, 2013)▷ CO in day-side atmosphere at 2–2.3 μm with VLT–CRIRES (de Kok et al., 2013)▷ 3d radiative-hydrodynamical simulations (Dobbs-Dixon & Agol, 2013)▷ albedo from HST–STIS at 290–570 nm imply deep blue planet colour (Evans et al., 2013)▷ host star spin-up by angular momentum transfer from planet (Guinan, 2013)▷ computation of albedo in terms of cloud properties (Heng & Demory,

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2013)▷ variable transit curves predicted in ultraviolet due to stellar wind bow shocks (Llama et al., 2013)▷ atmospheric disequilibrium diagnostics (Line & Yung, 2013)▷ C/O modeling and confirmation of C-rich atmosphere (Moses et al., 2013b)▷ atmospheric heat redistribution efficiency drops as stellar insolation rises (Perez-Becker & Showman, 2013)▷ soft X-ray transit detection with Chandra–ACIS (Poppenhaeger et al., 2013)▷ effects of dust-dominated atmosphere on emission spectrum and phase curves (Pont et al., 2013)▷ 3d atmospheric circulation with magnetic drag and Ohmic dissipation (Rauscher & Menou, 2013)▷ atmospheric CO absorption from Keck–NIRSPEC (Rodler et al., 2013a)▷ Doppler signatures of atmospheric circulation (Showman et al., 2013)▷ transmission spectrum from HST–NICMOS from blind-source separation (Waldmann et al., 2013)▷ **2014:** chemical model (Agúndez et al., 2014a)▷ atmospheric clouds, and degeneracy between cloud properties and Na abundance (Barstow et al., 2014)▷ detecting exomoons via transiting plasma torus (Ben-Jaffel & Ballester, 2014)▷ evidence for H_2O at 1.15 and 1.4 μm from HST–WFC3 eclipses (Crouzet et al., 2014)▷ ground-based near-infrared transmission spectrum from IRTF–SpeX (Danielski et al., 2014)▷ analysis of rotating star spots using SOAP–2 (Dumusque et al., 2014a)▷ systematic atmospheric retrieval analysis (Line et al., 2014)▷ atmospheric composition of day–night terminators (Lee et al., 2014c)▷ orbit parameters versus atmospheric species (Miguel & Kaltenegger, 2014)▷ re-evaluation of Spitzer–IRAC primary transit observations (Morello et al., 2014)▷ H_2O at 1.15 and 1.4 μm from HST–WFC3 transits (McCullough et al., 2014)▷ H_2O abundance from HST–WFC3 transmission spectra (Madhusudhan et al., 2014)▷ X-ray variability and high stellar activity due to angular momentum transfer from planet to star (Pillitteri et al., 2014a)▷ atmospheric circulation (Rauscher & Kempton, 2014)▷ assessment of CH_4 detection (Swain et al., 2014)▷ variability of spectral lines during transit (Shliakhetska et al., 2014)▷ re-analysis of secondary eclipse time series spectroscopy from Spitzer–IRS (Todorov et al., 2014)▷ magnetohydrodynamic simulations of upper atmosphere (Trammell et al., 2014)▷ location in Spitzer 3.6/4.5 μm colour–magnitude diagram (Triaud, 2014)▷ equatorial waves and superrotation (Tsai et al., 2014)▷ atmospheric clouds, and relation between pressure, abundance, and particle size (Vahidinia et al., 2014)▷ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)▷ hot CH_4 using a comprehensive computed line list from ExoMol (Yurchenko et al., 2014)▷ **2015:** first exoplanet transit observed with SOFIA (Angerhausen et al., 2015b)▷ compilation of light curves and transit timing (Baluev et al., 2015)▷ stellar diameter from CHARA (Boyajian et al., 2015)▷ analytical model of the Rossiter–McLaughlin effect (Baluev & Shaidulin, 2015)▷ centre-to-limb variations across the stellar Fraunhofer lines from transits (Czesla et al., 2015)▷ optical hydrogen absorption consistent with a thin bow shock leading the planet (Cauley et al., 2015)▷ chromatic Rossiter–McLaughlin effect (Di Gloria et al., 2015)▷ non-isothermal theory for interpreting Na lines in transmission spectra (Heng et al., 2015)▷ models of local and global cloud formation (Lee et al., 2015b)▷ spatially resolved eastward winds and planet rotation (Louden & Wheatley, 2015)▷ impact of stellar activity on X-ray and ultraviolet transits (Llama & Shkolnik, 2015)▷ gyrochronology and isochrone ages (Maxted et al., 2015)▷ far ultraviolet variability of the host star and possible mass accretion from the planet (Pillitteri et al., 2015)▷ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)▷ time scales of radio emission variability (See et al., 2015)▷ search for reflected light (Valyavin et al., 2015a)▷ spectrally resolved detection of Na with HARPS (Wyttenbach et al., 2015)▷ **2016:** excess absorption in the emission cores of Ca II, H-α, and Na I D during transits (Barnes et al., 2016)▷ chromatic line-profile tomography (Borsa et al., 2016)▷ absence of polarisation from AAT–HIPPI (Bott et al., 2016)▷ rotation and winds from CO and H_2O absorption from VLT–CRIRES (Brogi et al., 2016)▷ variation in the pre-transit Balmer line signal (Cauley et al., 2016)▷ Rossiter–McLaughlin effect 'reloaded' (Cegla et al., 2016)▷ extreme ultraviolet flux and the escaping atmosphere (Guo & Ben-Jaffel, 2016)▷ non-equilibrium cloud formation (Helling et al., 2016)▷ `StarSim` stellar activity modelling of the photometric and radial velocity curves (Herrero et al., 2016)▷ favourable for lightning-discharge studies during transit (Hodosán et al., 2016a)▷ atmospheric circulation (Kataria et al., 2016)▷ ultraviolet light curves attributed to outgassing from Trojan satellites on tadpole orbits (Kislyakova et al., 2016)▷ multiple-scattering polarised radiative transfer (Kopparla et al., 2016)▷ 3d radiative-hydrodynamic cloud modeling (Lee et al., 2016)▷ exosphere transit models compared with solar data from SDO (Llama & Shkolnik, 2016)▷ HST–WFC3 transmission spectra explained by solar composition atmospheres with patchy clouds (Line & Parmentier, 2016)▷ atmospheric escape of hot gas coupling plasma, photoionisation and Ly-α emission (Salz et al., 2016)▷ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▷ near ultraviolet transit depth attributed to planet atmosphere (Turner et al., 2016a)▷ envelope enrichment and predicted H_2O abundance (Venturini et al., 2016)▷ **2017:** spectral analysis based on temporal multifractality (Agarwal et al., 2017)▷ limits on H_2O-vapour at 650 nm from HARPS (Allart et al., 2017)▷ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)▷ effects of 3d thermal structure on 1d atmospheric retrieval (Blecic et al., 2017)▷ atmospheric Na from HARPS–N (Casasayas-Barris et al., 2017)▷ abnormal Hα variability during near-transit observations (Cauley et al., 2017c)▷ seven Hα transits using ESO–HARPS and Keck–HIRES from 2006–2015 (Cauley et al., 2017a)▷ unfeasability of chromatic line-profile tomography (Cegla et al., 2017)▷ effect of stellar flares on upper atmosphere (Chadney et al., 2017)▷ theoretical phase curve assuming thermochemical equilibrium (Dobbs-Dixon & Cowan, 2017)▷ evolving magnetic field from Zeeman–Doppler imaging 2013–15 (Fares et al., 2017)▷ mode of the Hα and Na transmission spectrum (Huang et al., 2017a)▷ atmospheric Na revealed by planet's orbital motion with VLT–UVES (Khalafinejad et al., 2017)▷ time-resolved VLT–UVES observations of a stellar flare during primary transit (Klocová et al., 2017)▷ atmospheric aerosols (Lavvas & Koskinen, 2017)▷ dynamical mineral clouds from atmospheric modeling (Lee et al., 2017)▷ atmospheric modeling with HELIOS (Malik et al., 2017)▷ models of transmitted and polarised scattered X-ray flux (Marin & Grosso, 2017)▷ Rossiter–McLaughlin effect determined from differential least-squares deconvolution (Strachan & Anglada-Escudé, 2017)▷ atmospheric modeling with reduced C-H-O chemical network, VULCAN (Tsai et al., 2017)▷ magnetospheric conditions and radio emission (Weber et al., 2017)▷ stellar absorption line centre-to-limb variations (Yan et al., 2017)▷ atmospheric structure and dynamics from Doppler-shifted emission spectra (Zhang et al., 2017)▷ **2018:** atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ H_2O in the transmission spectrum from GIANO (Brogi et al., 2018)▷ magnetic star–planet interactions from orbitally phased Ca II K variations (Cauley et al., 2018)▷ atmospheric simulations including chemical advection (Drummond et al., 2018b)▷ variability of Hα and Ca emission (Kohl et al., 2018)▷ stellar flare modeling due to star–planet magnetic field interaction (Lanza, 2018)▷ atmospheric models with the UK 3D Met Office Unified Model (Lines et al., 2018b)▷ tropospheric and thermospheric coupling (Pino et al., 2018)▷ He I 1083 nm absorption from CARMENES (Salz et al., 2018)▷ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)▷

HD 209458 planet with $P = 3.52$ d, $M_p \sin i = 0.62 M_J$, $R_p = 1.32 R_J$, $a = 0.046$ au, transiting a $1.1 M_\odot$ G0 dwarf at 47 pc, with $\Delta F = 0.017$ mag; radial velocity discovery with Keck–HIRES (Henry et al., 2000)▷ transit detection (Henry et al., 1999)▷ (Henry et al., 2000)▷ (Charbonneau et al., 2000)▷ *a posteriori* detection in Hipparcos photometry: (Söderhjelm et al., 1999)▷ (Robichon & Arenou, 2000)▷ (Castellano et al., 2000)▷ limits on emission/absorption lines during transit (Bundy & Marcy, 2000)▷ multicolour transits (Jha et al., 2000)▷ spectroscopic orbit from Keck–HIRES (Mazeh et al., 2000)▷ first detection of Rossiter–McLaughlin effect with OHP–ELODIE (Queloz et al., 2000a)▷ **2001:** transit photometry from HST–STIS (Brown et al., 2001)▷ prediction of molecular signatures during secondary eclipse (Brown, 2001)▷ limb darkening (Deeg et al., 2001)▷ limits on emission/absorption lines during transit with VLT–UVES (Moutou et al., 2001)▷ **2002:** Na concentration affected by non-LTE (Barman et al., 2002)▷ limits on CO at 2.3 μm with Keck–NIRSPEC (Brown et al., 2002)▷ atmospheric Na at 589.3 nm with HST (Charbonneau et al., 2002)▷ star/planet parameters and stellar age of 5.2 Gyr (Cody & Sasselov, 2002)▷ transits with 0.25-m telescope (Hudgins & Filipović, 2002)▷ **2003:** evolutionary models do not explain large planet radius by irradiation alone (Baraffe et al., 2003)▷ planet rotation from oblateness in transit photometry (Barnes & Fortney, 2003)▷ tidal and kinetic heating effects on planet radii (Bodenheimer et al., 2003)▷ age and irradiation may explain radius (Burrows et al., 2003)▷ global circulation characterised by polar vortices and broad zonal jets (Cho et al., 2003)▷ atmospheric models of Na absorption (Fortney et al., 2003)▷ atmospheric H driven by H_2O photolysis and reaction of OH with H_2 (Liang et al., 2003)▷ limits on He I at 1083 nm from VLT–ISAAC (Moutou et al., 2003)▷ limits on CH_4 from trans-

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mission spectroscopy at 3.6 μm with VLT–ISAAC (Richardson et al., 2003b)⊳ limits on CO and H_2O absorption at 2.2 μm from IRTF–SpeX (Richardson et al., 2003a)⊳ extended/escaping upper atmosphere in Ly-α (Vidal-Madjar et al., 2003)⊳ **2004:** evaporation rate and lifetime versus planet mass (Baraffe et al., 2004)⊳ effect of tidal locking on magnetospheric and atmospheric evolution (Grießmeier et al., 2004)⊳ review (Ksanfomality, 2004)⊳ atmospheric escape and atmospheric lifetime (Lecavelier des Etangs et al., 2004)⊳ limits on Na absorption from comets with HET–HRS (Mendelowitz et al., 2004)⊳ detection of O/C from HST–STIS (Vidal-Madjar et al., 2004)⊳ limits on exospheric Hα absorption from Subaru–HRS (Winn et al., 2004)⊳ **2005:** atmospheric composition and global circulation at 0.5–25 μm from Spitzer–IRAC–MIPS (Burrows et al., 2005)⊳ 3d atmospheric circulation models and predicted wind speeds (Cooper & Showman, 2005)⊳ limits on CO at 2 μm from Keck–NIRSPEC (Deming et al., 2005)⊳ atmospheric models of 24 μm Spitzer data suggest re-radiation of stellar flux over entire planet (Fortney et al., 2005)⊳ time-dependent radiative model and dependence of Na on orbit phase (Iro et al., 2005)⊳ eccentricity from 85 radial velocity measurements 1999–2005 from Keck/Lick (Laughlin et al., 2005b)⊳ limits on atomic species from Subaru–HDS (Narita et al., 2005)⊳ limits on secondary eclipse from K-band photometry with UKIRT (Snellen, 2005)⊳ hydrodynamic escape of neutral gas (Tian et al., 2005)⊳ obliquity tides as a heat source for close-in orbits (Winn & Holman, 2005)⊳ period accuracy 0.016 s from revised photometry/radial velocity (Wittenmyer et al., 2005)⊳ limits on 150 MHz radio emission from GMRT (Winterhalter et al., 2005)⊳ **2006:** integral field spectroscopy for Na I detection with WHT–INTEGRAL (Arribas et al., 2006)⊳ disequilibrium abundances for CO and CH_4 (Cooper & Showman, 2006)⊳ tests of general relativistic gravitoelectric correction require transit accuracies to 0.1 s (Iorio, 2006a)⊳ dynamical constraints on quadrupole mass moment (Iorio, 2006b)⊳ albedo limit of 0.25 from MOST photometry (Rowe et al., 2006)⊳ infrared radius from Spitzer–MIPS (Richardson et al., 2006)⊳ discrepancy in transit colour (Tingley et al., 2006)⊳ **2007:** hot H absorption (Ballester et al., 2007)⊳ H_2O absorption (Barman, 2007)⊳ theoretical spectral models with a thermal inversion and H_2O emission (Burrows et al., 2007)⊳ absorption by atomic H with no indication of evaporation (Ben-Jaffel, 2007)⊳ transit limits on companions from MOST (Croll et al., 2007a)⊳ mid-infrared phase variations (Cowan et al., 2007)⊳ ground-based limits on secondary eclipse with IRTF (Deming et al., 2007b)⊳ enhanced mass loss through hydrodynamic escape by stellar tidal forces (Erkaev et al., 2007)⊳ modeling escape and composition of the irradiated atmosphere (García Muñoz, 2007)⊳ limb darkening from HST–STIS (Knutson et al., 2007c)⊳ dependence of evaporation rate on potential energy (Lecavelier des Etangs, 2007)⊳ 3d hydrodynamical models and mass-loss rate (Schneiter et al., 2007)⊳ **2008:** diagnostic potential of albedo measurements (Burrows et al., 2008)⊳ spectral, spatial, and temporal properties of H exosphere (Ben-Jaffel, 2008)⊳ TiO and VO optical absorption from HST–STIS (Désert et al., 2008)⊳ extended exosphere and hydrogen loss from HST–ACS (Ehrenreich et al., 2008)⊳ energetic neutral atoms explains high-velocity hydrogen (Holmström et al., 2008)⊳ lower albedos predicted by radiation transfer models (Hood et al., 2008)⊳ atmospheric temperature inversion from 3.6–8.0 μm emission spectrum with Spitzer–IRAC (Knutson et al., 2008)⊳ Rayleigh scattering by H_2 and pressure–altitude relation (Lecavelier des Etangs et al., 2008c)⊳ radiation pressure can account for high-velocity H atoms (Lecavelier des Etangs et al., 2008b)⊳ limits on companion planets from transit time variations with MOST (Miller-Ricci et al., 2008b)⊳ albedo limit of 0.04 from MOST (Rowe et al., 2008)⊳ featureless emission spectrum over 7.4–15.2 μm with Spitzer–IRS (Swain et al., 2008a)⊳ atmospheric circulation with simplified forcing (Showman et al., 2008)⊳ ground-based detection of Na from Subaru–HDS (Snellen et al., 2008)⊳ limb darkening from HST–STIS (Sing et al., 2008a)⊳ temperature-pressure profile at terminator from Na absorption and Rayleigh scattering (Sing et al., 2008b)⊳ homogeneous analysis and light curve properties: (Southworth, 2008)⊳ reconfirmation of evaporation (Vidal-Madjar et al., 2008)⊳ **2009:** limb darkening mismatch with atmosphere models (Claret, 2009)⊳ homogeneous analysis and light curve properties: (Southworth, 2009)⊳ coupled radiative-dynamical atmospheric circulation (Showman et al., 2009)⊳ H_2O, CH_4, and CO_2 at 1.5–2.5 μm from HST–NICMOS (Swain et al., 2009a)⊳ **2010:** light curve analysis (Abubekerov et al., 2010)⊳ inflation through Ohmic dissipation (Batygin & Stevenson, 2010)⊳ atmospheric H_2O at 3.6–8.0 μm with Spitzer–IRAC (Beaulieu et al., 2010)⊳ energetic atoms in upper atmosphere (Ben-Jaffel & Sona Hosseini, 2010)⊳ photometric and spectral signatures of 3d models (Burrows et al., 2010)⊳ radiative hydrodynamic simulations and temporal variability (Dobbs-Dixon et al., 2010)⊳ magnetospheric properties from energetic neutral atoms (Ekenbäck et al., 2010)⊳ atmospheric models and the effects of TiO, VO, CO, CH_4 (Fortney et al., 2010)⊳ limits on far-ultraviolet auroral/dayglow emission from HST–COS (France et al., 2010)⊳ mass loss and tidal evolution (Guo, 2010)⊳ relevance to testing (general relativistic like) Horava–Lifshitz gravity (Iorio & Ruggiero, 2010)⊳ characterising the thermosphere with ultraviolet transit observations (Koskinen et al., 2010)⊳ evaporation rates (Lecavelier des Etangs, 2010)⊳ tidal heating (Leconte et al., 2010)⊳ mass-loss from HST–COS consistent with models that include metals in outflowing gas (Linsky et al., 2010)⊳ thermal inversion and molecular abundances (Madhusudhan & Seager, 2010)⊳ limits on Trojan asteroids from MOST (Moldovan et al., 2010)⊳ thermal inversion and molecular abundances (Madhusudhan & Seager, 2010)⊳ effects of magnetic drag on atmospheric winds (Perna et al., 2010a)⊳ Ohmic dissipation (Perna et al., 2010b)⊳ suprathermal H produced by dissociation of molecular H_2 (Shematovich, 2010)⊳ shifts in CO lines due to planet's orbital velocity (Snellen et al., 2010a)⊳ transits of limb-brightened lines and tentative Si IV absorption (Schlawin et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ **2011:** directed follow-up approach for transit detection using low-cadence surveys (Dzigan & Zucker, 2011)⊳ mass loss rate from extreme ultraviolet and X-ray radiation (Ehrenreich & Désert, 2011)⊳ constraints from HST–COS (France et al., 2011)⊳ mass-loss rates consistent with an atomic hydrogen/proton mixture (Guo, 2011)⊳ coupled radius–orbit evolutionary models (Ibgui et al., 2011)⊳ alkali line absorption in Na I and K I (Jensen et al., 2011)⊳ spectroscopic methods for detecting scattered starlight (Langford et al., 2011)⊳ limits on radio emission at 150 MHz from GMRT (Lecavelier des Etangs et al., 2011)⊳ transmission spectroscopy accounting for eccentricity and longitude of pericentre (Montalto et al., 2011)⊳ disequilibrium C, O, and N chemistry, and enhanced CH_4, NH_3, and HCN (Moses et al., 2011)⊳ temperature–pressure profile, ionisation layer, and thermosphere from Na D lines (Vidal-Madjar et al., 2011)⊳ **2012:** effects of atmospheric circulation (Agúndez et al., 2012)⊳ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)⊳ transit and eclipse parameters from Spitzer–MIPS 24 μm observations (Crossfield et al., 2012c)⊳ impact of circumplanetary jets on transit spectra and timing offsets (Dobbs-Dixon et al., 2012)⊳ limb darkening coefficients from 3d stellar atmosphere fits to HST data (Hayek et al., 2012)⊳ Hα in the transmission spectrum (Jensen et al., 2012)⊳ constraints on eccentricity from tidal dissipation (Laskar et al., 2012)⊳ high-speed winds with atmospheric drag from anomalous Doppler shifts during transit (Miller-Ricci Kempton & Rauscher, 2012)⊳ atmospheric chemistry (Venot et al., 2012)⊳ **2013:** ground-based detection of Ca, and possibly Sc and H (Astudillo-Defru & Rojo, 2013)⊳ 3d model of H escape with radiative blow-out and stellar wind interactions (Bourrier & Lecavelier des Etangs, 2013)⊳ near-infrared transmission spectroscopy with HST–NICMOS (Deming et al., 2013)⊳ photochemical-dynamical model for escaping heavy atoms (Koskinen et al., 2013a)⊳ photochemical-dynamical model for escaping heavy atoms (Koskinen et al., 2013b)⊳ 3d mixing and application to day–night cold trap (Parmentier et al., 2013)⊳ atmospheric heat redistribution versus stellar insolation (Perez-Becker & Showman, 2013)⊳ 3d atmospheric circulation with magnetic drag and Ohmic dissipation (Rauscher & Menou, 2013)⊳ Doppler signatures of atmospheric circulation (Showman et al., 2013)⊳ atomic Mg from HST–STIS, and confirmation of hydrodynamic escape (Vidal-Madjar et al., 2013)⊳ **2014:** chemical model (Agúndez et al., 2014a)⊳ modeling Mg escape (Bourrier et al., 2014)⊳ mass-loss rates (Cherenkov et al., 2014)⊳ no evidence for atmospheric thermal inversion (Diamond-Lowe et al., 2014)⊳ ionisation in thermosphere (Ionov et al., 2014)⊳ thermal escape and mass-loss (Koskinen et al., 2014)⊳ effects of photoionisation on transit depth in K (Lavvas et al., 2014)⊳ H_2O abundance from HST–WFC3 transmission spectra (Madhusudhan et al., 2014)⊳ atmospheric circulation (Rauscher & Kempton, 2014)⊳ magnetohydrodynamic atmosphere simulations (Rogers & Showman, 2014)⊳ location in Spitzer 3.6/4.5 μm colour–magnitude diagram (Triaud, 2014)⊳ mass loss rates and stellar wind (Villarreal D'Angelo et al., 2014)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ phase curve at 4.5 μm from Spitzer–IRAC (Zellem et al., 2014b)⊳ ground-based infrared emission spectra from IRTF–SpeX and Hale–TripleSpec (Zellem et al., 2014a)⊳ **2015:** no

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Si III from HST data in far ultraviolet (Ballester & Ben-Jaffel, 2015)▷ modeling Mg escape (Bourrier et al., 2015b)▷ stellar diameter from CHARA (Boyajian et al., 2015)▷ atmospheric heating by stellar radiation from soft X-rays to extreme ultraviolet (Ionov & Shematovich, 2015)▷ atmospheric mass loss including extreme ultraviolet irradiation and planetary magnetic dipole (Khodachenko et al., 2015)▷ gyrochronology and isochrone ages (Maxted et al., 2015)▷ transmission spectroscopy using VLT–KMOS (Parviainen et al., 2015)▷ high-energy irradiation and mass-loss rates (Salz et al., 2015)▷ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)▷ evidence against strong thermal inversion from high-dispersion spectroscopy (Schwarz et al., 2015)▷ **2016:** magnetospheric models, bow shocks, and near-ultraviolet absorption (Alexander et al., 2016)▷ UK Met Office global circulation model (Amundsen et al., 2016)▷ atmospheric parameters from HST spectrophotometry (del Burgo & Allende Prieto, 2016)▷ extreme ultraviolet flux and the escaping atmosphere (Guo & Ben-Jaffel, 2016)▷ non-equilibrium cloud formation (Helling et al., 2016)▷ atmospheric circulation (Kataria et al., 2016)▷ limits on H_3^+ from VLT–CRIRES (Lenz et al., 2016)▷ no thermal inversion and solar H_2O abundance from HST–WFC3 (Line et al., 2016)▷ molecular formation throughout the region of atmospheric mass loss (Pinotti & Boechat-Roberty, 2016)▷ photoionisation of planetary winds (Schneiter et al., 2016)▷ atmospheric escape of hot gas coupling plasma, photoionisation and Ly-α emission (Salz et al., 2016)▷ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▷ confirmation of H_2O from HST–WFC3 with Bayesian spectral retrieval (Tsiaras et al., 2016b)▷ envelope enrichment and H_2O abundance (Venturini et al., 2016)▷ inhomogeneous clouds from asymmetric transits (von Paris et al., 2016a)▷ **2017:** atmospheric retrieval with NEMESIS (Barstow et al., 2017)▷ C/O and O/H ratios suggest origin beyond the snow line (Brewer et al., 2017)▷ combining low- and high-resolution spectroscopy (Brogi et al., 2017)▷ effect of stellar flares on upper atmosphere (Chadney et al., 2017)▷ coronal mass ejections and atmospheric mass-loss (Cherenkov et al., 2017)▷ Chandra–HRC confirms X-ray emission, and derived mass-loss rates (Czesla et al., 2017)▷ spectral line profiles retrieved across the stellar disk (Dravins et al., 2017)▷ atmospheric model accounting for stellar wind and planet's magnetic moment (Erkaev et al., 2017)▷ models of Lyα absorption (Khodachenko et al., 2017)▷ inflated radius attributed to internal heating at 10^7 Pa (Komacek & Youdin, 2017)▷ atmospheric aerosols (Lavvas & Koskinen, 2017)▷ modeling the high-energy irradiation from HST–COS (ultraviolet) and XMM–Newton (Louden et al., 2017a)▷ evidence of N chemistry (NH_3) from HST–WFC3 (MacDonald & Madhusudhan, 2017b)▷ evidence of N chemistry (NH_3 and/or HCN), patchy clouds, and H_2O (MacDonald & Madhusudhan, 2017a)▷ 3d atmospheric models of the deep atmosphere and zonal jets (Mayne et al., 2017)▷ inflated radius attributed to advection of potential temperature (Tremblin et al., 2017)▷ atmospheric modeling with reduced C-H-O chemical network, VULCAN (Tsai et al., 2017)▷ magnetospheric conditions and radio emission (Weber et al., 2017)▷ stellar absorption line centre-to-limb variations (Yan et al., 2017)▷ atmospheric structure and dynamics from Doppler-shifted emission spectra (Zhang et al., 2017)▷ **2018:** atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ influence of stellar flares on atmospheric dynamics (Bisikalo et al., 2018)▷ influence of stellar radiation pressure on planet envelope flow structure (Cherenkov et al., 2018)▷ observable signatures of wind-driven chemistry (Drummond et al., 2018a)▷ evidence for HCN, CO, and H_2O from VLT–CRIRES (Hawker et al., 2018)▷ atmospheric models with the UK 3D Met Office Unified Model (Lines et al., 2018b)▷ transmission spectra from a 3D simulated cloudy atmosphere (Lines et al., 2018a)▷ Bayesian atmospheric analysis (Morello, 2018)▷ modeling of absorption by heavy minor species (Shaikhislamov et al., 2018)▷ influence of magnetised winds on the escaping upper atmosphere (Villarreal D'Angelo et al., 2018)▷

HD 219134 6-planet low-mass system around bright (V = 5.5) nearby (d = 6.5 pc) star, all discovered from radial velocity measures (planets b and c also transit), with periods 3.1, 6.8, 22.8, 46.7, 94.2 and 2247 d; discovery of a 4-planet system from HARPS–N on La Palma–TNG (first of the HARPS–N Rocky Planet Search programme) with planet b transits discovered from Spitzer (Motalebi et al., 2015)▷ 2 additional planets, f and g, from Keck–HIRES and Lick–Levy (Vogt et al., 2015)▷ 12-yr stellar activity cycle from 27 yr of radial velocities (Johnson et al., 2016a)▷ planet c transits discovered from Spitzer (Gillon et al., 2017a)▷ Bayesian analysis of interior structure using stellar abundance proxies (Dorn et al., 2017)▷ spatially-resolved spectroscopy across the stellar surface (Dravins et al., 2017)▷ quantified degeneracy of interior parameters of planets b and c (Dorn & Heng, 2018)▷ bulk density dependent on high-temperature condensates (Dorn et al., 2018a)▷ observations of stellar magnetism, wind, and high-energy flux (Folsom et al., 2018)▷ grid of upper atmosphere models (Kubyshkina et al., 2018)▷ stellar-wind sputtered exospheres of the rocky planets b and c (Vidotto et al., 2018)▷

B. Discovered from transit photometry, ordered by identifier

BD

BD+20 594 see K2–56

CoRoT

CoRoT–1 discovery (Barge et al., 2008)▷ secondary eclipse in CoRoT data (Alonso et al., 2009a)▷ transit time analysis (Bean, 2009)▷ VLT transit and occultation photometry (Gillon et al., 2009b)▷ secondary eclipse from ARC (Rogers et al., 2009)▷ apsidal precession due to planetary tidal bulge (Ragozzine & Wolf, 2009)▷ low albedo (Snellen et al., 2009a)▷ transit time analysis (Csizmadia et al., 2010)▷ Rossiter–McLaughlin effect from Keck–HIRES and VLT–FORS (Pont et al., 2010)▷ pre-discovery transits from BEST (Rauer et al., 2010)▷ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▷ secondary eclipse from Spitzer (Deming et al., 2011a)▷ photometry and new spectroscopy (Southworth, 2011)▷ prospects for detecting bow shocks (Vidotto et al., 2011)▷ tidal effects on radial velocity (Arras et al., 2012)▷ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▷ false-positive analysis (Nefs et al., 2012)▷ secondary eclipse from Palomar–WIRC (Zhao et al., 2012b)▷ confirmation of secondary eclipse (Parviainen et al., 2013)▷ atmospheric characterisation with HST–WFC3 (Ranjan et al., 2014)▷ constraints on TiO/VO from transmission spectrum with IRTF (Schlawin et al., 2014)▷ primary/secondary transit detections (Gibson, 2015)▷ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)▷ heat recirculation and albedo from comparison of optical phase curve and secondary eclipse (von Paris et al., 2016b)▷ improved orbit and increased inflation from HARPS–N (Bonomo et al., 2017a)▷

CoRoT–2 highly active host star with optical variability caused by magnetic activity, highly inflated planet radius, and gravitationally bound stellar companion candidate, 2MASS J19270636+0122577; discovery (Alonso et al., 2008a)▷ Rossiter–McLaughlin effect (Bouchy et al., 2008)▷ secondary eclipse in CoRoT data (Alonso et al., 2009b)▷ star spot modeling and differential rotation (Fröhlich et al., 2009)▷ localisation of stellar activity (Huber et al., 2009)▷ star spot modeling and star–planet magnetic interaction (Lanza et al., 2009b)▷ star spot modeling and star–planet magnetic interaction (Pagano et al., 2009)▷ star spot eclipse mapping (Wolter et al., 2009)▷ **2010:** secondary eclipse from WHT–LIRIS (Alonso et al., 2010)▷ host star chemistry (Chavero et al., 2010)▷ thermal emission and tidal heating from Spitzer (Gillon et al., 2010c)▷ pre-discovery transits from BEST (Rauer et al., 2010)▷ star spot modeling (Silva-Valio et al., 2010)▷ atmospheric modeling from secondary eclipse (Snellen et al., 2010b)▷ secondary eclipse from Spitzer (Deming et al., 2011a)▷ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▷ star spot and activity modeling (Guillot & Havel, 2011)▷ star–planet magnetic interactions (Lanza, 2011)▷ spot modeling and Rossiter–McLaughlin effect (Nutzman et al., 2011a)▷ spot modeling from 77 transits (Silva-Valio & Lanza, 2011)▷ stellar activity from VLT–UVES and Chandra (Schröter et al., 2011)▷ photometry and new spectroscopy (Southworth, 2011)▷ chromospheric Rossiter–McLaughlin effect (Czesla et al., 2012)▷ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▷ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)▷ physical properties (Southworth, 2012)▷ confirmed stellar companion from lucky imaging (Faedi et al., 2013b)▷ C/O modeling and confirmation of C-rich atmosphere (Moses et al., 2013b)▷ confirmation of secondary eclipse (Parviainen et al., 2013)▷ orbit parameters versus atmospheric species (Miguel & Kaltenegger, 2014)▷ black body spectrum from HST–WFC3 (Wilkins et al., 2014)▷ **2015:** compilation of light curves and transit timing (Baluev et al., 2015)▷ gyrochronology

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and isochrone ages (Maxted et al., 2015)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ disentangling planetary and stellar activity (Bruno et al., 2016)⊳ orbital decay due to non-linear tidal dissipation (Essick & Weinberg, 2016)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳ Spitzer photometry shows westward hotspot offset of 23° (Dang et al., 2018)⊳

CoRoT–3 planet/brown dwarf ($21M_J$); discovery (Deleuil et al., 2008)⊳ Rossiter–McLaughlin effect (Triaud et al., 2009)⊳ host star chemistry (Chavero et al., 2010)⊳ ellipsoidal modulation and relativistic beaming (Mazeh & Faigler, 2010)⊳ limits on orbits and masses of moons (Weidner & Horne, 2010)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ stellar companion from lucky imaging (Faedi et al., 2013b)⊳ secondary eclipse (Parviainen et al., 2013)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳

CoRoT–4 discovery (Aigrain et al., 2008)⊳ confirmation from radial velocity, and star and planet parameters (Moutou et al., 2008)⊳ stellar rotation, differential rotation, and star–planet magnetic interaction (Lanza et al., 2009a)⊳ host star (Chavero et al., 2010)⊳ star–planet magnetic interactions (Lanza, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ false-positive analysis (Nefs et al., 2012)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

CoRoT–5 discovery (Rauer et al., 2009)⊳ host star (Chavero et al., 2010)⊳ photometry and spectroscopy (Southworth, 2011)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳

CoRoT–6 discovery (Fridlund et al., 2010)⊳ photospheric activity, rotation, and star–planet magnetic interaction (Lanza et al., 2011b)⊳ star–planet magnetic interactions (Lanza, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ significant secondary eclipse (Parviainen et al., 2013)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

CoRoT–7 2-planet system of which only planet b transits (planet c discovered by radial velocity); high stellar activity; discovery (Léger et al., 2009)⊳ discovery of planet c from radial velocity (Queloz et al., 2009)⊳ **2010:** improved stellar parameters (Bruntt et al., 2010)⊳ possible planet d (Hatzes et al., 2010)⊳ tidal evolution and atmospheric evaporation (Jackson et al., 2010)⊳ photospheric activity and stellar rotation (Lanza et al., 2010)⊳ evaporation rates (Lecavelier des Etangs, 2010)⊳ interior composition (Rogers & Seager, 2010a)⊳ composition and atmospheric evaporation (Valencia et al., 2010)⊳ disentangling planetary signals from stellar activity (Boisse et al., 2011)⊳ effects of magnetic drag and Ohmic dissipation (Castan & Menou, 2011)⊳ mass determination (Ferraz-Mello et al., 2011)⊳ tidal evolution (Greenberg & Van Laerhoven, 2011)⊳ constraints on exosphere (Guenther et al., 2011)⊳ mass determination (Hatzes et al., 2011)⊳ atmospheric constraints, proposed lava ocean (Léger et al., 2011)⊳ thermal mass loss, and possible remnant of gas/ice giant (Leitzinger et al., 2011)⊳ effects of stellar wind on exosphere and magnetosphere (Mura et al., 2011)⊳ reassessment of radial velocity measurements (Pont et al., 2011)⊳ tidal decay and orbit circularisation (Rodríguez et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ prospects for detecting bow shocks (Vidotto et al., 2011)⊳ elliptical instability (Cebron et al., 2012)⊳ tidal evolution (Dong & Ji, 2012)⊳ Spitzer observations and improved ephemeris (Fressin et al., 2012a)⊳ composition modeling (Gong & Zhou, 2012)⊳ atmospheric stability under tidal locking (Heng & Kopparla, 2012)⊳ irradiation-driven massloss (Poppenhaeger et al., 2012a)⊳ composition modeling and Fe-enrichment (Wagner et al., 2012)⊳ stellar magnetic field topology (Fares et al., 2013)⊳ mass loss by extreme ultraviolet and X-ray radiation (Kurokawa & Kaltenegger, 2013)⊳ photophoretic separation of metals and silicates as an explanation for high density (Wurm et al., 2013)⊳ new CoRoT transits and HARPS radial velocities (Barros et al., 2014a)⊳ tidal evolution (Dong, 2014)⊳ star spot modeling using CoRoT and HARPS data (Haywood et al., 2014b)⊳ effects of stellar activity (Haywood et al., 2014a)⊳ expected constraints on very hot super-Earths from JWST–NIRSPEC (Samuel et al., 2014)⊳ **2015:** gyrochronology and isochrone ages (Maxted et al., 2015)⊳ constraining planet structure from stellar chemistry (Santos et al., 2015a)⊳ number of planetary signals present in radial velocity datasets (Faria et al., 2016)⊳ coupled orbital and spin evolution using a Maxwell viscoelastic rheology (Rodríguez et al., 2016)⊳ constraint on super-Earth interiors from stellar abundances (Brugger et al., 2017)⊳ Bayesian analysis of interior structure using stellar abundance proxies (Dorn et al., 2017)⊳ confirmation through 'Agatha' periodogram analysis (Feng et al., 2017a)⊳ undetected giant planet predicted from formation model (Hoffmann et al., 2017)⊳ cloud formation in metal-rich atmospheres (Mahapatra et al., 2017)⊳ grid of upper atmosphere models (Kubyshkina et al., 2018)⊳

CoRoT–8 discovery (Bordé et al., 2010)⊳ debris disks (Krivov et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳

CoRoT–9 longest period CoRoT planet (P = 95 d); discovery (Deeg et al., 2010)⊳ limits on orbits and masses of moons (Weidner & Horne, 2010)⊳ transit time variations (Borkovits et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ 5 yr radial velocity suggest non-zero eccentricity (Bonomo et al., 2017b)⊳ Spitzer constraints on rings and satellites (Lecavelier des Etangs et al., 2017)⊳

CoRoT–10 discovery (Bonomo et al., 2010)⊳ photometry and new spectroscopy (Southworth, 2011)⊳

CoRoT–11 discovery and Rossiter–McLaughlin effect (Gandolfi et al., 2010)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ tidal analysis, candidate for orbit precession measurement (Lanza et al., 2011c)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ line-profile tomography, Rossiter–McLaughlin effect (Gandolfi et al., 2012)⊳ $CO \rightleftarrows CH_4$ time scales for orbital and vertical quenching for eccentric orbits (Visscher, 2012)⊳ significant secondary eclipse (Parviainen et al., 2013)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳

CoRoT–12 discovery (Gillon et al., 2010b)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳

CoRoT–13 discovery (Cabrera et al., 2010)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ marginally significant secondary eclipse (Parviainen et al., 2013)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

CoRoT–14 discovery (Tingley et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳

CoRoT–15 not in NASA; brown dwarf ($63M_J$); discovery (Bouchy et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ significant secondary eclipse (Parviainen et al., 2013)⊳

CoRoT–16 discovery (Ollivier et al., 2012)⊳

CoRoT–17 discovery (Csizmadia et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2012)⊳

CoRoT–18 discovery and Rossiter–McLaughlin effect (Hébrard et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ marginally significant secondary eclipse (Parviainen et al., 2013)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

CoRoT–19 discovery and Rossiter–McLaughlin effect (Guenther et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳

CoRoT–20 2-planet system; planet b is a high density ($8.9\,\mathrm{Mg\,m^{-3}}$), high eccentricity hot Jupiter (e = 0.56); discovery and tidal analysis for planet b (Deleuil et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ discovery of (massive, eccentric, outer) planet c from 6 yr of HARPS/SOPHIE follow-up (Rey et al., 2018)⊳ brown dwarf companion with P = 4.6 yr interacting with planet b (Rey et al., 2018)⊳

CoRoT–21 not in NASA; extreme tidal forces leading to orbit decay and stellar spin-up in 800 Myr; discovery and tidal analysis, $M_p = 2.3M_J$ (Pätzold et al., 2012)⊳ secondary eclipse (Parviainen et al., 2013)⊳

CoRoT–22 discovery (Moutou et al., 2014a)⊳

CoRoT–23 discovery and tidal analysis (Rouan et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳

CoRoT–24 2-planet system, both transiting (first for CoRoT) with periods 5.1 d and 11.8 d; discovery (Alonso et al., 2014)⊳ hydrodynamic escape rates and planetary radius (Lammer et al., 2016)⊳ Roche lobe overflow model and mass-loss for short-period gaseous planets (Jackson et al., 2017)⊳

CoRoT–25 discovery (Almenara et al., 2013)⊳

CoRoT–26 discovery (Almenara et al., 2013)⊳

CoRoT–27 dense ($12.6\,\mathrm{Mg\,m^{-3}}$) $10M_J$ planet in a 3.6-d orbit; discovery (Parviainen et al., 2014)⊳

CoRoT–28 slightly evolved star, G8/9 IV discovery and asymmetric transit (Cabrera et al., 2015)⊳

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CoRoT–29 possibly asymmetric transits, attributed to oblate star or spots; discovery (Cabrera et al., 2015)▹ chromatic light curves from GTC–OSIRIS do not confirm asymmetry (Pallé et al., 2016)▹ transit profile and artificial megastructures (Wright et al., 2016b)▹

CoRoT–30…CoRoT–32 not in NASA

CoRoT–33 not in NASA; brown dwarf ($59 M_J$) in the brown dwarf desert; discovery, 3:2 resonance with star rotation (Csizmadia et al., 2015)▹

CoRoT–ID 223977153 discovery (Boufleur et al., 2018)▹

EPIC

(identifiers used as default alias in NASA Exoplanet Archive)

EPIC–211822797 see K2–103

EPIC–211945201 see K2–236

EPIC–220674823 see K2–106

EPIC–246851721 see K2–267

GJ

GJ 1132 2-plant system; discovery of planet b by MEarth–South, and radial velocity by ESO–HARPS (Berta-Thompson et al., 2015)▹ atmospheric composition (Schaefer et al., 2016)▹ radial velocity requirements to detect other planets (Cloutier et al., 2017b)▹ constraints on other bodies from transits with MEarth–S and Spitzer (Dittmann et al., 2017a)▹ possible detection of H_2O and/or CH_4 (Southworth et al., 2017)▹ suitability for JWST (Morley et al., 2017b)▹ scaling relations for rocky planet interiors (Zeng & Jacobsen, 2017)▹ discovery of planet c (Bonfils et al., 2018a)▹ optical transmission spectroscopy with Magellan (Diamond-Lowe et al., 2018)▹

GJ 1214 super-Earth at 15 pc, favourable for transmission spectroscopy; studies aim to establish whether the atmosphere is dominated by relatively heavy molecules such as H_2O, or high-altitude clouds obscuring its lower layers; discovery by MEarth (Charbonneau et al., 2009)▹ **2010:** atmospheric constraints on composition (Bean et al., 2010)▹ observable consequences of H-rich atmosphere (Miller-Ricci & Fortney, 2010)▹ composition modeling (Rogers & Seager, 2010b)▹ transit ephemeris (Sada et al., 2010)▹ **2011:** atmospheric constraints from VLT/Magellan (Bean et al., 2011)▹ detectability of CO_2 with HST (Belu et al., 2011)▹ stellar rotation (Berta et al., 2011)▹ atmospheric constraints from CFHT–WIRCam (Croll et al., 2011a)▹ atmospheric constraints from Keck–NIRSPEC (Crossfield et al., 2011)▹ transit times from Magellan (Carter et al., 2011)▹ atmospheric constraints from Spitzer (Désert et al., 2011a)▹ transit search targeting known transiting systems (Gillon et al., 2011a)▹ transit times from APO (Kundurthy et al., 2011)▹ atmospheric constraints from Spitzer (Nettelmann et al., 2011)▹ **2012:** atmospheric constraints from HST–WFC3 (Berta et al., 2012)▹ atmospheric models (Benneke & Seager, 2012)▹ elliptical instability (Cebron et al., 2012)▹ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)▹ atmospheric constraints from INT/NOT/WHT (de Mooij et al., 2012)▹ tidal evolution (Dong & Ji, 2012)▹ atmospheric models (Howe & Burrows, 2012)▹ atmospheric stability under tidal locking (Heng & Kopparla, 2012)▹ atmospheric constraints from GTC–OSIRIS (Murgas et al., 2012)▹ atmospheric models (Menou, 2012)▹ atmospheric models (Miller-Ricci Kempton et al., 2012)▹ **2013:** star and planet properties (Anglada-Escudé et al., 2013a)▹ astrometric distance from CAPS, and infrared spectroscopy (Anglada-Escudé et al., 2013a)▹ extended cloudy H_2/He atmosphere (Barstow et al., 2013)▹ seven transits with UKIRT–WFC confirming featureless atmosphere (Colón & Gaidos, 2013)▹ transit depths in blue light, confirming limited atmosphere or small scale height dominated by H_2O (de Mooij et al., 2013a)▹ ultraviolet radiation environment (France et al., 2013)▹ Spitzer observations over 20 d, with atmospheric constraints from Rayleigh scattering (Fraine et al., 2013)▹ population synthesis models of atmospheric composition (Fortney et al., 2013)▹ limits on transit time variations (Harpsøe et al., 2013)▹ 11 defocused transits, and limits on transit time variations (Harpsøe et al., 2013)▹ hydrodynamic blow-off of atmospheric H (Lammer et al., 2013)▹ atmospheric models favour high clouds and hydrocarbon haze (Morley et al., 2013)▹ atmospheric constraints from IRSF–SIRIUS (Narita et al., 2013b)▹ Subaru photometry over 32 nights suggesting 1% H_2O/99% N_2 atmosphere (Narita et al., 2013a)▹ atmospheric constraints from infrared transit photometry with ISF–SIRIUS (Narita et al., 2013b)▹ nine transits with Kuiper and STELLA–I (Teske et al., 2013c)▹ atmospheric models suggesting H/He<7% by mass (Valencia et al., 2013)▹ simulations using the MIT general circulation model (Zalucha et al., 2013)▹ **2014:** transit/eclipse from SOAR (Cáceres et al., 2014)▹ tidal evolution (Dong, 2014)▹ limits on additional planet transits from Spitzer (Gillon et al., 2014b)▹ C_2H_2 at 1.0–1.5 and 9–14 μm as a diagnostic for hydrocarbon-rich atmospheres (Hu & Seager, 2014)▹ atmospheric circulation (Kataria et al., 2014)▹ limits on cloud-free models dominated by H_2O, CH_4, CO, NO, or CO_2 from HST (Kreidberg et al., 2014b)▹ astrometry from CTIO–SMARTS (RECONS) and brown dwarf limits (Lurie et al., 2014)▹ X-ray coronal emission and evaporation rate from XMM–Newton (Lalitha et al., 2014)▹ atmospheric constraints from five GTC narrow-band transits (Wilson et al., 2014)▹ **2015:** atmospheric vertical mixing driven by anti-Hadley circulation (Charnay et al., 2015a)▹ formation of high inhomogeneous atmospheric clouds (Charnay et al., 2015b)▹ measures for characterising H_2O-rich super-Earths (Madhusudhan & Redfield, 2015)▹ transmission spectroscopy using VLT–KMOS (Parviainen et al., 2015)▹ **2016:** condensate clouds (KCl/ZnS, K2SO4/ZnO, graphite, etc) as functions of H/O and C/O (Mbarek & Kempton, 2016)▹ **2017:** simultaneous optical and near-infrared photometry with SOFIA (Angerhausen et al., 2017)▹ unsupervised correlated noise removal for transit light curve fitting (Dehghan Firoozabadi et al., 2017)▹ optical transmission spectrum revealing heterogeneous stellar photosphere (Rackham et al., 2017)▹ **2018:** transit light curves with simultaneous fit to stellar specific intensity and planetary radius (Aronson & Piskunov, 2018)▹ microphysics of KCl and ZnS clouds (Gao & Benneke, 2018)▹ cloud-top heights constrained by microphysical modeling of mineral clouds (Ohno & Okuzumi, 2018)▹

GJ 9827 see K2–135

HAT

HAT–P–1 discovery, and orbit around one component of a stellar binary (Bakos et al., 2007b)▹ 6 transits from ground photometry (Winn et al., 2007a)▹ Rossiter–McLaughlin effect (Johnson et al., 2008b)▹ radius (Liu et al., 2008a)▹ homogeneous analysis and light curve properties (Southworth, 2008)▹ six transits and refined parameters (Winn et al., 2008b)▹ stellar proper motion and transit timing (Rafikov, 2009)▹ light curve properties (Southworth, 2009)▹ light curve properties (Southworth, 2010)▹ secondary eclipse from Spitzer–IRAC (Todorov et al., 2010a)▹ secondary eclipse from WHT–LIRIS (de Mooij et al., 2011)▹ secondary eclipses from HST–STIS (Béky et al., 2013)▹ near infrared transmission spectroscopy and 1.4 μm H_2O band from HST–WFC3 (Wakeford et al., 2013)▹ stellar binary abundances (Liu et al., 2014a)▹ Na/optical absorption from HST–STIS/WFC3 near infrared transmission spectra (Nikolov et al., 2014)▹ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)▹ constraints on optical transmission spectrum (Montalto et al., 2015)▹ detection of K from GTC–OSIRIS (Wilson et al., 2015)▹ cloudiness index from transit radii associated with Na/K lines (Heng, 2016)▹ atmospheric circulation (Kataria et al., 2016)▹ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▹ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)▹ atmospheric retrieval with NEMESIS (Barstow et al., 2017)▹

HAT–P–2 ≡ HD 147506; high eccentricity ($e = 0.2$) hot Jupiter; discovery (Bakos et al., 2007a)▹ Rossiter–McLaughlin effect (Winn et al., 2007e)▹ Rossiter–McLaughlin effect (Loeillet et al., 2008)▹ revised parameters from photometry and radial velocity (Pál et al., 2010)▹ homogeneous analysis and light curve properties (Southworth, 2010)▹ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▹ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▹ alkali line absorption in Na I and K I (Jensen et al., 2011)▹ Rossiter–McLaughlin effect (Albrecht et al., 2012b)▹ tidal effects on radial velocity (Arras et al., 2012)▹ $CO \rightleftarrows CH_4$ time scales for orbital and vertical quenching for eccentric orbits (Visscher, 2012)▹ stellar magnetic field topology (Fares et al., 2013)▹ orbit and secondary eclipse, day-side inversion, and trend in radial velocity from Spitzer (Lewis et al., 2013)▹ atmospheric circulation (Lewis et al., 2014)▹ atmospheric escape of hot gas coupling plasma, photoionisation and Ly-α emission (Salz et al., 2016)▹ formation by stellar perturbations (Shara et al., 2016)▹ improved orbit from HARPS–N (Bonomo et al., 2017a)▹ planet-induced stellar pulsations from 350 h of Spitzer 4.5 μm photometry (de Wit et al., 2017)▹ low-cost échelle spectroscopy (Garai et al., 2017)▹ atmospheric properties from thermal model of Spitzer data (Adams &

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Laughlin, 2018)⊳ marginally significant pre-discovery transits from Hipparcos (McDonald & Kerins, 2018)⊳

HAT–P–3 discovery (Torres et al., 2007)⊳ transit time analysis (Gibson et al., 2010b)⊳ metal content from density (Chan et al., 2011)⊳ transits from Asiago–TASTE (Nascimbeni et al., 2011a)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ transit photometry, size suggesting high metallicity (Chan et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ transit and radial velocity fitting with EXOFAST (Eastman et al., 2013)⊳ Spitzer–IRAC secondary eclipse photometry (Todorov et al., 2013)⊳ new transit photometry (Ricci et al., 2017a)⊳ new transit timing observations (Maciejewski et al., 2018b)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2018)⊳

HAT–P–4 discovery (Kovács et al., 2007)⊳ search for additional planets from EPOXI (Ballard et al., 2011a)⊳ 10 transits from EPOXI (Christiansen et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ Rossiter–McLaughlin effect (Winn et al., 2011b)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ Spitzer–IRAC secondary eclipse photometry (Todorov et al., 2013)⊳ signatures of rocky planet engulfment from metal enrichment and Li depletion (Saffe et al., 2017)⊳

HAT–P–5 discovery (Bakos et al., 2007c)⊳ debris disk (Krivov et al., 2011)⊳ four-colour photometry (Southworth et al., 2012c)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳

HAT–P–6 discovery (Noyes et al., 2008)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect and retrograde orbit (Hébrard et al., 2011a)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ internal gravity waves as explanation for apparent spin–orbit misalignment (Rogers et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ atmospheric constraints from secondary eclipse with Spitzer–IRAC (Todorov et al., 2012)⊳

HAT–P–7 ≡ Kepler–2; hot Jupiter in highly inclined (83°) orbit; discovery in pre-operational Kepler field (Pál et al., 2008)⊳ **2009:** 10-d photometry from Kepler commissioning (Borucki et al., 2009)⊳ Rossiter–McLaughlin effect and retrograde orbit: Subaru–HDS (Narita et al., 2009b)⊳ Rossiter–McLaughlin effect and retrograde orbit: Keck–HIRES (Winn et al., 2009d)⊳ **2010:** secondary eclipse from EPOXI, Spitzer, Kepler (Christiansen et al., 2010)⊳ asteroseismology (Christensen-Dalsgaard et al., 2010)⊳ thermal inversion and molecular abundances (Madhusudhan & Seager, 2010)⊳ planetary structure in a tidally-relaxed inclined system (Mardling, 2010)⊳ possible faint stellar companions (Narita et al., 2010b)⊳ atmosphere and spectral models (Spiegel & Burrows, 2010)⊳ ellipsoidal variations (Welsh et al., 2010)⊳ **2011:** search for additional planets from EPOXI (Ballard et al., 2011a)⊳ photometry and spectroscopy (Southworth, 2011)⊳ detection of bow shocks (Vidotto et al., 2011)⊳ transits with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ **2012:** Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ ellipsoidal variations (Jackson et al., 2012)⊳ reflected light from Kepler, mass from ellipsoidal variations (Mislis et al., 2012)⊳ common proper motion companion and Kozai migration (Narita et al., 2012)⊳ asteroseismology and revised planet parameters (Van Eylen et al., 2012)⊳ internal gravity waves to explain apparent spin–orbit misalignment (Rogers et al., 2012)⊳ **2013:** light curve from 15 quarters of Kepler (Esteves et al., 2013)⊳ confirmed stellar companion from lucky imaging (Faedi et al., 2013b)⊳ 355 orbits from Kepler, cool spot due to planet-induced (stellar tidal) gravity darkening (Morris et al., 2013)⊳ asteroseismology and revised planet parameters (Oshagh et al., 2013b)⊳ atmospheric heat redistribution efficiency drops as stellar insolation rises (Perez-Becker & Showman, 2013)⊳ 500 transits from Kepler, transit depth variations attributed to Kepler systematics (Van Eylen et al., 2013)⊳ **2014:** orbit polar rather than retrograde (Benomar et al., 2014)⊳ stellar obliquity and seismology from Kepler (Lund et al., 2014)⊳ constraints on oblateness (Zhu et al., 2014)⊳ **2015:** Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ origin of high-order harmonics in Kepler light curves (Armstrong & Rein, 2015)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ Kepler phase curves with beaming, ellipsoidal, and reflection phase modulation (Faigler & Mazeh, 2015)⊳ spin–orbit angles from gravity darkening (Masuda, 2015)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ **2016:** variation in phase curve peak offset attributed to variation in atmospheric wind speed (Armstrong et al., 2016a)⊳ spin–orbit (retrograde) alignment from asteroseismology (Campante et al., 2016)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ inferring inhomogeneous cloud cover from asymmetric transits (von Paris et al., 2016a)⊳ heat recirculation and albedo from optical phase curve and secondary eclipse (von Paris et al., 2016b)⊳ 3.6 and 4.5 μm Spitzer phase curves (Wong et al., 2016)⊳ **2017:** simple transit model (Ji et al., 2017)⊳ constraints on magnetic field strength (Rogers, 2017)⊳ **2018:** atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)⊳ HST–WFC3 thermal emission spectrum (Mansfield et al., 2018a)⊳

HAT–P–8 planet orbits primary of hierarchical triple system; discovery (Latham et al., 2009)⊳ Rossiter–McLaughlin effect (Moutou et al., 2011a)⊳ Rossiter–McLaughlin effect from OHP–SOPHIE (Simpson et al., 2011c)⊳ atmospheric constraints from secondary eclipse with Spitzer (Todorov et al., 2012)⊳ stellar companion from lucky imaging (Bergfors et al., 2013)⊳ lucky imaging of host star (Faedi et al., 2013b)⊳ low-mass binary companion from VLT–NACO (Ginski et al., 2013)⊳ photometry with revised radius and mass (Mancini et al., 2013c)⊳ Keck imaging indicates planet orbits primary of hierarchical triple system (Bechter et al., 2014)⊳ three transits observed with Yunnan and Lijiang (Tan et al., 2014)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ simple transit model (Ji et al., 2017)⊳

HAT–P–9 discovery (Shporer et al., 2009)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect (Moutou et al., 2011a)⊳ revised ephemeris (Dittmann et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳

HAT–P–10 see WASP–11

HAT–P–11 ≡ Kepler–3; 2-planet system, with significant obliquity of planet b and eccentric planet c; discovery of planet b in pre-operational Kepler field (Bakos et al., 2010)⊳ confirmation and revised ephemeris (Dittmann et al., 2009a)⊳ interior composition (Rogers & Seager, 2010a)⊳ Rossiter–McLaughlin effect and high-inclination orbit (Winn et al., 2010b)⊳ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)⊳ star spots over 26 Kepler transits (Deming et al., 2011b)⊳ Rossiter–McLaughlin effect (Hirano et al., 2011b)⊳ star spot analysis (Sanchis-Ojeda & Winn, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ infrared transits and star spots (Sada et al., 2012)⊳ possible GMRT 150 MHz radio emission (Lecavelier des Etangs et al., 2013)⊳ analysis of rotating star spots using SOAP–T (Oshagh et al., 2013a)⊳ spin–period ratio of 6:1 from Kepler star spots (Béky et al., 2014a)⊳ semi-analytical model for spotted star transits, SPOTROD (Béky et al., 2014b)⊳ detection of H_2O in the transmission spectrum at 1.4 μm (Fraine et al., 2014)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ lightning as a possible source of planetary radio emission (Hodosán et al., 2016b)⊳ HST–WFC3 transmission spectra explained by solar composition atmosphere with patchy clouds (Line & Parmentier, 2016)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ discovery of secondary eclipse from all short-cadence Kepler data (Huber et al., 2017)⊳ star spot distribution suggests solar-like dynamo (Morris et al., 2017b)⊳ chromospheric activity consistent with ≳ 10-yr activity cycle (Morris et al., 2017a)⊳ detection of He 1083.3 nm with HST–WFC3 (Mansfield et al., 2018b)⊳ large star spot groups in its second observed magnetic activity cycle from holographic diffuser photometry (Morris et al., 2018e)⊳ discovery of planet c from 10-yr of Keck–HIRES radial velocity data (Yee et al., 2018)⊳

HAT–P–12 discovery (Hartman et al., 2009)⊳ ephemeris from 18 transits over 4.2 yr (Lee et al., 2012d)⊳ possible transit duration variations from Pulkovo (Sokov et al., 2012)⊳ transmission spectrum lacking H_2O from HTS–WFC3 (Line et al., 2013)⊳ Spitzer–IRAC limits on secondary eclipse (Todorov et al., 2013)⊳ broadband spectrophotometry from near ultraviolet to near infrared (Mallonn et al., 2015a)⊳ atmospheric circulation (Kataria et al., 2016)⊳ transits from Monterrey observatory (Sada & Ramón-Fox, 2016)⊳ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)⊳ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳ resolving the (cloudy) flat featureless spectrum determined from ground, and the (hazy) Rayleigh scattering from HST (Alexoudi et al., 2018)⊳

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constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2018)⊳

HAT–P–13 2-planet system; inner transiting $e = 0.01$ hot Jupiter (planet b), and $15M_J$ $e = 0.67$ outer (non-transiting) planet c discovered from radial velocity; discovery (Bakos et al., 2009a)⊳ predicted optical phase variations (Kane & Gelino, 2010)⊳ planetary structure in a tidally-relaxed inclined system (Mardling, 2010)⊳ absence of planet c transits (Szabó et al., 2010)⊳ Rossiter–McLaughlin effect, possible planet d (Winn et al., 2010a)⊳ 22 transits over 2.8 yr with one anomalous timing (Fulton et al., 2011)⊳ transit times from Asiago–TASTE (Nascimbeni et al., 2011b)⊳ variations in transit times (Pál et al., 2011)⊳ transit time jitter (Payne & Ford, 2011)⊳ constraints on metallicity and Love number (Kramm et al., 2012)⊳ physical properties (Southworth et al., 2012a)⊳ dynamical measures of internal structure from perturbations from a distant companion (Becker & Batygin, 2013)⊳ secular orbit evolution and apsidal locking (Zhang et al., 2013)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ dynamical constraints on core mass from eccentricity derived from Spitzer–IRAC transits (Buhler et al., 2016)⊳ transits from Monterrey observatory (Sada & Ramón-Fox, 2016)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ secondary eclipses and evidence for low core mass (Hardy et al., 2017)⊳

HAT–P–14 ≡ WASP–27; near-grazing transit; discovery (Torres et al., 2010)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ ephemeris (Nascimbeni et al., 2011a)⊳ independent discovery as WASP–27 (Simpson et al., 2011a)⊳ Rossiter–McLaughlin effect and retrograde orbit (Winn et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ simulated multi-colour photometry with MuSCAT (Fukui et al., 2016b)⊳

HAT–P–15 discovery and composition (Kovács et al., 2010)⊳

HAT–P–16 discovery (Buchhave et al., 2010)⊳ Rossiter–McLaughlin effect from OHP–SOPHIE (Moutou et al., 2011a)⊳ Rossiter–McLaughlin effect from Magellan/Keck (Albrecht et al., 2012b)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ simultaneous transit observations with two telescopes (Ciceri et al., 2013)⊳ magnetic field constraints from near ultraviolet observations at Steward–Kuiper (Pearson et al., 2014)⊳ transits from Monterrey observatory (Sada & Ramón-Fox, 2016)⊳

HAT–P–17 2-planet system; inner transiting planet in short-period (10 d) eccentric ($e = 0.34$) orbit, and outer (6000 d) non-transiting planet from radial velocity; discovery (Howard et al., 2012)⊳ Rossiter–McLaughlin effect from Keck–HIRES (Fulton et al., 2013)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ Kepler phase curves and secondary eclipses (Angerhausen et al., 2015a)⊳ improved orbits from HARPS–N (Bonomo et al., 2017a)⊳

HAT–P–18 discovery (Hartman et al., 2011b)⊳ Rossiter–McLaughlin effect from HARPS–N (Esposito et al., 2014)⊳ ground-based transits (Seeliger et al., 2015)⊳ Rayleigh scattering from WHT–ACAM transmission spectrum (Kirk et al., 2017)⊳ photometric observations and transit solutions (Kjurkchieva et al., 2017)⊳

HAT–P–19 discovery and possible second planet (Hartman et al., 2011b)⊳ Spitzer secondary eclipse observations at 3.6 and 4.5 μm (Kammer et al., 2015)⊳ transmission spectroscopy (Mallonn et al., 2015b)⊳ ground-based transits (Seeliger et al., 2015)⊳ new transit timing observations (Maciejewski et al., 2018b)⊳ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)⊳

HAT–P–20 discovery (Bakos et al., 2011)⊳ heavy-element composition of disk-instability planets (Boley et al., 2011)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ light curves, possible transit time variations (Granata et al., 2014)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ secondary eclipses from Spitzer (Deming et al., 2015)⊳ Rossiter–McLaughlin effect from HARPS–N (Esposito et al., 2017)⊳ system parameters and transit timings (Sun et al., 2017a)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

HAT–P–21 short-period eccentric orbit with transits near apocentre; discovery (Bakos et al., 2011)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

HAT–P–22 discovery (Bakos et al., 2011)⊳ radial velocity search for massive long-period companion (Knutson et al., 2014c)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳ 4.5 μm secondary eclipse depths with Spitzer–IRAC (Kilpatrick et al., 2017)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2018)⊳

HAT–P–23 discovery and short infall time (Bakos et al., 2011)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect (Moutou et al., 2011a)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ four transits from UMO (Ramón-Fox & Sada, 2013)⊳ near-infrared secondary eclipse from Spitzer/Palomar (O'Rourke et al., 2014)⊳ physical properties from multicolour photometry (Ciceri et al., 2015b)⊳ transits from Monterrey observatory (Sada & Ramón-Fox, 2016)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳ constraints on orbital decay from transit timing (Maciejewski et al., 2018a)⊳

HAT–P–24 discovery, prediction of large Rossiter–McLaughlin effect (Kipping et al., 2010)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ parameters from Yunnan and Hokoon (Wang et al., 2013c)⊳ observations with Rozhen 2-m telescope show no evidence for transit time or transit duration variations (Kjurkchieva et al., 2016)⊳

HAT–P–25 discovery (Quinn et al., 2012a)⊳

HAT–P–26 discovery (Hartman et al., 2011a)⊳ limits on H_2O from Magellan–LDSS–3C (Stevenson et al., 2016a)⊳ prominent H_2O-absorption from HST and Spitzer (Wakeford et al., 2017a)⊳ preferred formation pathway through pebble accretion rather than planetesimal accretion (Ali-Dib & Lakhlani, 2018)⊳ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)⊳

HAT–P–27 ≡ WASP–40; near-grazing transit; discovery (Béky et al., 2011)⊳ independent discovery as WASP–40 (Anderson et al., 2011a)⊳ Rossiter–McLaughlin effect (Brown et al., 2012b)⊳ infrared transits (Sada et al., 2012)⊳ ground-based transits (Seeliger et al., 2015)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳

HAT–P–28 discovery (Buchhave et al., 2011a)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳

HAT–P–29 discovery (Buchhave et al., 2011a)⊳ radial velocity search for massive long-period companion (Knutson et al., 2014c)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳ refined system parameters and transit timing variations (Wang et al., 2018d)⊳

HAT–P–30 ≡ WASP–51; discovery and Rossiter–McLaughlin effect (Johnson et al., 2011c)⊳ independent discovery as WASP–51 (Enoch et al., 2011a)⊳ background stellar companions (Ginski et al., 2013)⊳ transit observations (Maciejewski et al., 2016b)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ chromospheric activity, mass loss, and star–planet interaction (Staab et al., 2017)⊳

HAT–P–31 discovery and possible second planet (Kipping et al., 2011)⊳

HAT–P–32 discovery (Hartman et al., 2011c)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ primary transits and transmission spectra from Gemini–North MOS indicate clouds (Gibson et al., 2013b)⊳ radial velocity search for long-period companion (Knutson et al., 2014c)⊳ 45 transits from YETI and limits on TTVs (Seeliger et al., 2014)⊳ secondary eclipse photometry from Hale–WIRC/Spitzer–IRAC and stellar companion HAT–P–32B (Zhao et al., 2014)⊳ transmission spectroscopy with LBT (Mallonn & Strassmeier, 2016)⊳ transmission spectroscopy with GTC–OSIRIS (Nortmann et al., 2016)⊳ broad band spectrophotometry (Mallonn et al., 2016)⊳ stellar perturbations (Shara et al., 2016)⊳ near-infrared transmission spectrum from HST–WFC3 (Damiano et al., 2017)⊳ near ultraviolet transit photometry with LBT implies silicate aerosols (Mallonn & Wakeford, 2017)⊳ thermal emission spectrum from HST–WFC3 (Nikolov et al., 2018b)⊳ possible bimodal cloud distribution from high-precision (defocused) photometry of 8 transits with CAHA–BUSCA (Tregloan-Reed et al., 2018)⊳

HAT–P–33 discovery (Hartman et al., 2011c)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳ transit timing analysis from 8 transits with NAOC–Xinglong (Wang et al., 2017b)⊳ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)⊳

HAT–P–34 high eccentricity and possible second planet; discovery (Bakos et al., 2012)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳

HAT–P–35 discovery (Bakos et al., 2012)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳

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HAT–P–36 discovery (Bakos et al., 2012)⊳ limits on transit time variations from 2009–2013 (Maciejewski et al., 2013c)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2015a)⊳ orbital decay due to non-linear tidal dissipation (Essick & Weinberg, 2016)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

HAT–P–37 discovery (Bakos et al., 2012)⊳ additional transit observations (Maciejewski et al., 2016b)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳

HAT–P–38 Saturn-like mass and radius; discovery (Sato et al., 2012a)⊳ cloud modeling from HST–WFC3 (Bruno et al., 2018a)⊳

HAT–P–39 discovery (Hartman et al., 2012)⊳

HAT–P–40 discovery (Hartman et al., 2012)⊳

HAT–P–41 discovery (Hartman et al., 2012)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ Rossiter–McLaughlin effect (Johnson et al., 2017)⊳

HAT–P–42 discovery (Boisse et al., 2013)⊳

HAT–P–43 discovery (Boisse et al., 2013)⊳

HAT–P–44 2-planet system, inner (planet b) transiting, outer non-transiting discovered from radial velocity (Hartman et al., 2014)⊳

HAT–P–45 discovery (Hartman et al., 2014)⊳

HAT–P–46 discovery (Hartman et al., 2014)⊳

HAT–P–47 not in NASA; discovery (Bakos et al., 2016)

HAT–P–48 not in NASA; discovery (Bakos et al., 2016)

HAT–P–49 discovery and fast stellar rotation (Bieryla et al., 2014)⊳

HAT–P–50 discovery (Hartman et al., 2015c)⊳

HAT–P–51 discovery (Hartman et al., 2015c)⊳

HAT–P–52 discovery (Hartman et al., 2015c)⊳

HAT–P–53 discovery (Hartman et al., 2015c)⊳ new observations and transit solutions (Kjurkchieva et al., 2018)⊳

HAT–P–54 hot Jupiter in field 0 of K2 (Bakos et al., 2015a)⊳

HAT–P–55 discovery (Juncher et al., 2015)⊳

HAT–P–56 ≡ K2–20; inflated massive hot Jupiter followed up with K2 Campaign 0 (Huang et al., 2015)⊳ Rossiter–McLaughlin effect and super-synchronous spin–orbit alignment from Doppler tomography with TRES (Zhou et al., 2016a)⊳ marginally significant pre-discovery transits from Hipparcos (McDonald & Kerins, 2018)⊳

HAT–P–57 discovery and confirmation by Doppler tomography (Hartman et al., 2015a)⊳

HAT–P–58 . . . HAT–P–64 in preparation

HAT–P–65 discovery (Hartman et al., 2016)⊳

HAT–P–66 discovery (Hartman et al., 2016)⊳

HAT–P–67 confirmation by Doppler tomography (Zhou et al., 2017)⊳

HATSouth

HATS–1 discovery (Penev et al., 2013)⊳

HATS–2 discovery, star spots, and Rossiter–McLaughlin effect (Mohler-Fischer et al., 2013)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

HATS–3 discovery (Bayliss et al., 2013)⊳ Rossiter–McLaughlin effect from AAT–UCLES (Addison et al., 2014)⊳

HATS–4 discovery (Jordán et al., 2014)⊳

HATS–5 discovery (Zhou et al., 2014a)⊳

HATS–6 discovery (Hartman et al., 2015b)⊳

HATS–7 not in NASA; discovery (Bakos et al., 2015b)⊳

HATS–8 discovery (Bayliss et al., 2015)⊳

HATS–9 in field 7 of K2; discovery (Brahm et al., 2015)⊳ refined properties from K2 (Bayliss et al., 2018b)⊳

HATS–10 in field 7 of K2; discovery (Brahm et al., 2015)⊳

HATS–11 discovery (Rabus et al., 2016)⊳ refined properties from K2 (Bayliss et al., 2018b)⊳

HATS–12 discovery (Rabus et al., 2016)⊳ refined properties from K2 (Bayliss et al., 2018b)⊳

HATS–13 discovery (Mancini et al., 2015b)⊳

HATS–14 discovery (Mancini et al., 2015b)⊳ Rossiter–McLaughlin effect from Keck–HIRES (Zhou et al., 2015a)⊳

HATS–15 discovery (Ciceri et al., 2016a)⊳

HATS–16 discovery (Ciceri et al., 2016a)⊳

HATS–17 discovery (Brahm et al., 2016b)⊳

HATS–18 $2M_\mathrm{J}$ planet in 0.8 d orbit, with host star showing evidence of tidal spin-up; discovery (Penev et al., 2016)⊳ empirical tidal dissipation in exoplanet hosts from tidal spin-up (Penev et al., 2018)⊳

HATS–19 . . . HATS–21 not in NASA; discovery (Bhatti et al., 2017)

HATS–22 discovery (Bento et al., 2017)⊳

HATS–23 discovery (Bento et al., 2017)⊳

HATS–24 discovery (Bento et al., 2017)⊳

HATS–25 discovery (Espinoza et al., 2016a)⊳

HATS–26 discovery (Espinoza et al., 2016a)⊳

HATS–27 discovery (Espinoza et al., 2016a)⊳

HATS–28 discovery (Espinoza et al., 2016a)⊳

HATS–29 discovery (Espinoza et al., 2016a)⊳

HATS–30 discovery (Espinoza et al., 2016a)⊳

HATS–31 discovery (de Val-Borro et al., 2016)⊳

HATS–32 discovery (de Val-Borro et al., 2016)⊳

HATS–33 discovery (de Val-Borro et al., 2016)⊳

HATS–34 discovery (de Val-Borro et al., 2016)⊳

HATS–35 discovery (de Val-Borro et al., 2016)⊳

HATS–36 discovery (Bayliss et al., 2018b)

HATS–37 . . . HATS–38 in preparation

HATS–39 discovery (Bento et al., 2018)⊳

HATS–40 discovery (Bento et al., 2018)⊳

HATS–41 high-mass planet ($9.7M_\mathrm{J}$) orbiting highest metallicity transit host star ([Fe/H] = 0.47); discovery (Bento et al., 2018)⊳

HATS–42 discovery (Bento et al., 2018)⊳

HATS–43 . . . HATS–46 discovery (Brahm et al., 2018b)

HATS–47 . . . HATS–49 in preparation

HATS–50 . . . HATS–53 discovery (Henning et al., 2018)

HATS–54 . . . HATS–58 in preparation

HATS–59* 2-planet system comprising transiting hot Jupiter with a massive outer companion; discovery (Sarkis et al., 2018a)⊳

HD

(identifiers used as default alias in NASA Exoplanet Archive)

HD 3167 see K2–96

HD 39091 ≡ π Men (V = 5.65 mag); 2-planet system, planet b from radial velocity, planet c (first TESS discovery) from transit photometry; discovery of planet b (Jones et al., 2002b)⊳ discovery of planet c with TESS (Gandolfi et al., 2018)⊳

HD 89345 see K2–234

HD 106315 see K2–109

HIP

(identifiers used as default alias in NASA Exoplanet Archive)

HIP 41378 see K2–93

HIP 116454 see K2–2

KELT

KELT–1 brown dwarf ($27M_\mathrm{J}$) orbiting V = 10.7 F star; discovery and Rossiter–McLaughlin effect (Siverd et al., 2012)⊳ secondary eclipse from Spitzer (Beatty et al., 2014)⊳ compilation of light curves and transit timing (Baluev et al., 2015)⊳ secondary eclipse with CFHT–WIRCam and limits on ground-based systematics (Croll et al., 2015a)⊳ H-band emission spectrum at R = 50 at 135 ppm from LBT–LUCI1 (Beatty et al., 2017a)⊳ constraints on orbital decay from transit timing (Maciejewski et al., 2018a)⊳

KELT–2A hot Jupiter transiting primary of HD 42176 binary; discovery, Kozai hypothesis and predicted Rossiter–McLaughlin effect (Beatty et al., 2012)⊳ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)⊳ Keck–NIRSPEC and Spitzer–IRAC detection of the thermal emission spectrum (Piskorz et al., 2018)⊳

KELT–3 discovery (Pepper et al., 2013)⊳ search for Hα absorption (Cauley et al., 2017b)⊳

KELT–4A hot Jupiter orbiting brightest component of hierarchical triple system (projected separation KELT–4A/4BC = 328 au, projected separation KELT–4B/4C = 10.30 au); discovery (Eastman et al., 2016)⊳ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)⊳

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KELT–5 in preparation (Pepper, priv. comm.)

KELT–6 2-planet system, outer non-transiting; detection, confirmation from radial velocity, and possibility of outer non-transiting planet (Collins et al., 2014)⊳ Rossiter–McLaughlin effect for planet b and confirmation of planet c from HARPS–N (Damasso et al., 2015b)⊳

KELT–7 bright, rapidly rotating star; large Rossiter–McLaughlin effect (Bieryla et al., 2015)⊳ super-synchronous spin–orbit alignment from Doppler tomography with TRES (Zhou et al., 2016a)⊳

KELT–8 low density inflated planet with large atmospheric scale height; discovery (Fulton et al., 2015a)⊳

KELT–9 hot planet ($T_{eq} \sim 4600$ K) in1.5-d orbit around an A/B star; discovery and Rossiter–McLaughlin effect (Gaudi et al., 2017)⊳ Fe and Ti from HARPS–N spectroscopy (Hoeijmakers et al., 2018a)⊳ ground-based near-ultraviolet secondary eclipse observed with INT–WFC (Hooton et al., 2018)⊳ atmospheric chemistry (Kitzmann et al., 2018)⊳ extended H envelope from CARMENES spectroscopy (Yan & Henning, 2018)⊳

KELT–10 first KELT–South exoplanet; discovery (Kuhn et al., 2016)⊳

KELT–11 bright host star, highly inflated planet; discovery (Pepper et al., 2017b)⊳ empirical stellar masses and radii from transits and (predicted) Gaia parallaxes (Beatty et al., 2017c)⊳

KELT–12 discovery (Stevens et al., 2017)⊳

KELT–13 see WASP–167

KELT–14 ≡ WASP–122; discovery (Rodriguez et al., 2016)⊳ independent discovery as WASP–122 (Turner et al., 2016c)⊳

KELT–15 discovery (Rodriguez et al., 2016)⊳

KELT–16 planet near tidal disruption; discovery (Oberst et al., 2017)⊳ constraints on orbital decay from transit timing (Maciejewski et al., 2018a)⊳

KELT–17 hot Jupiter in misaligned orbit; discovery and Rossiter–McLaughlin effect (Zhou et al., 2016b)⊳

KELT–18 discovery (McLeod et al., 2017)⊳

KELT–19A hot Jupiter transiting Am star with distant stellar companion; discovery and Rossiter–McLaughlin effect (Siverd et al., 2018)⊳

KELT–20 ≡ MASCARA–2; hot Jupiter orbiting a $V = 7.6$ mag A star; discovery (by KELT) and Rossiter–McLaughlin effect (Lund et al., 2017)⊳ independent discovery (by MASCARA) and Rossiter–McLaughlin effect (Talens et al., 2018)⊳ Na I and Hα absorption features (Casasayas-Barris et al., 2018)⊳

KELT–21* discovery (Johnson et al., 2018b)⊳

KELT–22* not in NASA; discovery (Labadie-Bartz et al., 2018)⊳

Kepler

Kepler–1 see TrES–2 (in pre-operational Kepler field)

Kepler–2 see HAT–P–7 (in pre-operational Kepler field)

Kepler–3 see HAT–P–11 (in pre-operational Kepler field)

Kepler–4 discovery (Borucki et al., 2010)⊳ independent analysis, possible eccentric orbit, constraints on moons and Trojans (Kipping & Bakos, 2011a)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ host star properties from Kepler asteroseismology (Huber et al., 2013b)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ secondary eclipse measurement of 7 ppm at phase 0.7 implying an eccentric orbit (Sheets & Deming, 2017)⊳

Kepler–5 discovery (Koch et al., 2010)⊳ independent analysis, possible secondary eclipse, constraints on moons and Trojans (Kipping & Bakos, 2011a)⊳ secondary eclipse from Spitzer (Désert et al., 2011c)⊳ light curve modeling (Gostev, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ secondary eclipses and phase variations (Esteves et al., 2013)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ precision clock to constrain variation of the gravitational constant (Masuda & Suto, 2016)⊳ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)⊳

Kepler–6 discovery (Dunham et al., 2010)⊳ independent analysis, possible stellar rotation, constraints on moons and Trojans (Kipping & Bakos, 2011a)⊳ secondary eclipse from Spitzer (Désert et al., 2011c)⊳ light curve modeling (Gostev, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ secondary eclipses and phase variations (Esteves et al., 2013)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ precision clock to constrain variation of the gravitational constant (Masuda & Suto, 2016)⊳

Kepler–7 discovery (Latham et al., 2010)⊳ secondary eclipse, high albedo, and atmospheric modeling (Demory et al., 2011b)⊳ light curve modeling (Gostev, 2011)⊳ secondary eclipse, constraints on moons and Trojans (Kipping & Bakos, 2011a)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ physical properties (Southworth, 2012)⊳ atmospheric modeling (Demory et al., 2013a)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ model of visible-wavelength phase curves (Hu et al., 2015a)⊳ clouds maps derived from phase curve (Garcia Munoz & Isaak, 2015)⊳ atmospheric modeling, with westward phase shift of brightest region explained by clouds (Shporer & Hu, 2015)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ interpretation of phase curves using scattering within the FMS general circulation model (Oreshenko et al., 2016)⊳ inferring inhomogeneous cloud cover from asymmetric transits (von Paris et al., 2016a)⊳ inhomogeneous aerosols and atmospheric circulation (Roman & Rauscher, 2017)⊳

Kepler–8 discovery and Rossiter–McLaughlin effect (Jenkins et al., 2010)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ constraints on moons and Trojans (Kipping & Bakos, 2011a)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ secondary eclipses and phase variations (Esteves et al., 2013)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳

Kepler–9 3-planet system, outer two close to 2:1 commensurability; discovery by transit time variations (Holman et al., 2010)⊳ composition modeling and Fe-enrichment (Havel et al., 2011)⊳ light curve modeling and confirmation of planet d (Torres et al., 2011)⊳ composition (Gong & Zhou, 2012)⊳ orbit from transit times and radial velocities from TRADES (Borsato et al., 2014)⊳ photodynamical modelling over 8 yr of transit observations (Freudenthal et al., 2018)⊳ Rossiter–McLaughlin effect for the multi-planet system is consistent with spin–orbit alignment (Wang et al., 2018c)⊳ ground-based photometry, dynamical modeling, and recovery of transit ephemeris (Wang et al., 2018e)⊳

Kepler–10 2-planet system including first (small) Kepler rocky planet; discovery and asteroseismology (Batalha et al., 2011)⊳ effects of magnetic drag and Ohmic dissipation (Castan & Menou, 2011)⊳ confirmation of planet c (Fressin et al., 2011)⊳ mass loss constrains origin of rocky nature (Leitzinger et al., 2011)⊳ lava ocean and prediction of secondary eclipse (Rouan et al., 2011)⊳ additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳ composition and Fe-enrichment (Gong & Zhou, 2012)⊳ capture into spin–orbit resonance (Rodríguez et al., 2012)⊳ composition and Fe-enrichment (Wagner et al., 2012)⊳ tidal evolution (Dong & Ji, 2013)⊳ atmospheric mass loss (Kurokawa & Kaltenegger, 2013)⊳ photophoretic separation of metals and silicates as an explanation for high density (Wurm et al., 2013)⊳ mass determination from HARPS–N (Dumusque et al., 2014b)⊳ tidal evolution (Dong, 2014)⊳ stellar parameters from asteroseismology (Fogtmann-Schulz et al., 2014)⊳ synchronisation and circularisation through tidal heating (Makarov & Efroimsky, 2014)⊳ secondary eclipse (Sheets & Deming, 2014)⊳ N-body constraints on collision and merger history (Terquem, 2014)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ model of visible-wavelength phase curves (Hu et al., 2015a)⊳ planet structure and Fe content (Santos et al., 2015a)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ stellar chemical composition compared with 14 stellar twins (Liu et al., 2016)⊳ planet masses and densities (Weiss et al., 2016)⊳ constraint on super-Earth interiors from stellar abundances (Brugger et al., 2017)⊳ interior structure from stellar abundance proxies (Dorn et al., 2017)⊳ resolution of (HARPS–N and Keck–HIRES) mass discrepancy and improved mass for planet c (Rajpaul et al., 2017)⊳

Kepler–11 6-planet system, five tightly packed; discovery, coplanarity and stability (Lissauer et al., 2011)⊳ *in situ* accretion versus atmospheric erosion (Ikoma & Hori, 2012)⊳ mass loss and system evolution (Lopez et al., 2012)⊳ N-body modeling and stability (Migaszewski et al., 2012)⊳ low densities for all six planets from mass-radius combinations (Lissauer et al., 2013)⊳ hydrodynamic blow-off of atmospheric H (Lammer et al., 2013)⊳ H coronae around a CO_2-dominated planetary atmosphere (Bernard et al., 2014)⊳ accretion and evolution models (Bodenheimer & Lissauer, 2014)⊳ orbit from transit times and radial velocities from TRADES (Borsato et al., 2014)⊳ phase modulation of collective planetary system (Gelino & Kane, 2014)⊳ formation of tightly packed systems (Hands et al., 2014)⊳ stellar wind interaction and thermal escape (Kislyakova et al., 2014)⊳ system stability, and close proximity to disruptive two-body mean-motion resonances (Mahajan & Wu, 2014)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ formation beyond the snow line, followed by inward migration, circularisation, and mass loss (Howe & Burrows, 2015)⊳ *in situ* and *ex situ* formation models (D'Angelo & Bodenheimer, 2016)⊳ extreme ultraviolet flux and the escaping atmosphere (Guo & Ben-Jaffel, 2016)⊳ orbital dynamics and mean motion resonances (Mia & Kushvah, 2016)⊳ young main sequence solar twin (Bedell et al., 2017)⊳ dynamical studies focusing on grazing collisions, scatterings and mergers (Hwang et al., 2017)⊳ constraints on outer planet architecture from co-planarity (Jontof-Hutter et al., 2017)⊳ dynamics of tightly-packed planetary systems in the presence of an outer planet (Granados Contreras & Boley, 2018)⊳

Kepler–12 low-density highly-inflated planet; discovery and atmospheric characterisation (Fortney et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ atmospheric modeling, with westward phase shift of brightest region and substellar point explained by clouds (Shporer & Hu, 2015)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳

Kepler–13 KOI–13 in NASA (Kepler–13A); short-period (1.7-d) planet orbiting brighter component of hierarchical triple stellar system; out-of-eclipse light curve has comparable contributions from planet and ellipsoidal variations induced in the star; candidate identification (Borucki et al., 2011)⊳ spin–orbit alignment from gravity-darkened host star rotation (Barnes et al., 2011a)⊳ speckle imaging (Howell et al., 2011)⊳ confirmation from orbit modeling of variability and tidal distortions (Shporer et al., 2011)⊳ orbit modeling (Szabó et al., 2011)⊳ orbit modeling (Mazeh et al., 2012)⊳ orbit modeling (Mislis & Hodgkin, 2012)⊳ spin–orbit resonance, transit duration variations, and precession of orbit plane (Szabó et al., 2012)⊳ third stellar component (Santerne et al., 2012)⊳ secondary eclipses and phase variations, including third harmonic (Esteves et al., 2013)⊳ misaligned prograde orbit from Rossiter–McLaughlin effect/Doppler tomography with HET (Johnson et al., 2014)⊳ reflection, beaming, and ellipsoidal variations from EXONEST (Placek et al., 2014)⊳ atmospheric characterisation and day-side temperature (Shporer et al., 2014)⊳ transit duration, peak depth and asymmetry changes due to rapid orbit precession (Szabó et al., 2014)⊳ **2015:** Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ origin of high-order harmonics in Kepler light curves (Armstrong & Rein, 2015)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ Kepler phase curves with beaming, ellipsoidal, and reflection phase modulation (Faigler & Mazeh, 2015)⊳ spin–orbit angles from gravity darkening (Masuda, 2015)⊳ as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ atmospheric cold-traps in the non-inverted emission spectrum from HST–WFC3 (Beatty et al., 2017b)⊳ spin–orbit angles from gravity darkening (Howarth & Morello, 2017)⊳ stellar and planet parameters from Hawaii parallax programme (Mann et al., 2017a)⊳ Rossiter–McLaughlin effect (Herman et al., 2018)⊳ application of close binary system analysis program WinFitter (Budding et al., 2018)⊳ Bayesian model testing of stellar ellipsoidal variations (Gai & Knuth, 2018)⊳ spin–orbit misalignment and precession from gravity darkening (Herman et al., 2018)⊳

Kepler–14 planet orbiting one component of binary system; discovery (Buchhave et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ host star properties from Kepler asteroseismology (Huber et al., 2013b)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳

Kepler–15 discovery and composition modeling (Endl et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳

Kepler–16(AB) circumbinary planet, comprising Saturn-mass giant in coplanar circular orbit ($P = 229$ d) around eccentric binary ($P = 41$ d); the planet will cease transiting the secondary in 2014, and the primary in 2018, thereafter non-transiting until 2042; discovery (Doyle et al., 2011)⊳ Rossiter–McLaughlin effect indicating co-alignment of stellar orbit, planet orbit, and primary rotation (Winn et al., 2011a)⊳ dynamical mass ratio of stellar components (Bender et al., 2012)⊳ regions of dynamical stability for disks and planets (Jaime et al., 2012)⊳ N-body planetesimal accretion (Meschiari, 2012)⊳ N-body planetesimal accretion (Marzari et al., 2012)⊳ difficulties with *in situ* formation (Paardekooper et al., 2012)⊳ habitable zone (Quarles et al., 2012b)⊳ formation via gravitational instability (Zhu et al., 2012)⊳ analytic method for predicting eclipse timing variations (Armstrong et al., 2013)⊳ eccentricity damped by circumbinary disk (Dunhill & Alexander, 2013)⊳ determination of habitable zone (Kane & Hinkel, 2013)⊳ determination of habitable zone (Liu et al., 2013)⊳ analytic theory for binary orbits (Leung & Lee, 2013)⊳ influence of circumbinary disk gravity on planetesimal accumulation (Marzari et al., 2013)⊳ rotational synchronisation and the habitable zone (Mason et al., 2013)⊳ migration and gas accretion (Pierens & Nelson, 2013)⊳ dynamical stability of 11:2 resonance bounded by unstable 5:1 and 6:1 resonances (Popova & Shevchenko, 2013)⊳ climate modeling of habitable zone (Forgan, 2014)⊳ multi-orbital 'tight transits' (Liu et al., 2014b)⊳ circumbinary planet formation in debris belt (Meschiari, 2014)⊳ dynamical stability (Chavez et al., 2015)⊳ surface flux illumination and photosynthesis in circumbinary systems (Forgan et al., 2015)⊳ analytic orbit propagation for circumbinary planets (Georgakarakos & Eggl, 2015)⊳ circumbinary modeling in protoplanetary disks (Lines et al., 2015)⊳ habitability zones versus radiation and plasma environment (Zuluaga et al., 2016)⊳ role of disk self-gravity in orbital evolution (Mutter et al., 2017)⊳ simulations of the debris disk dynamics (Demidova & Shevchenko, 2018)⊳

Kepler–17 discovery, obliquity from star spots, secondary eclipse, and atmospheric characterisation (Désert et al., 2011b)⊳ evidence for companion planets from transit timing variations (Steffen et al., 2010)⊳ independent confirmation from radial velocity (Bonomo et al., 2012)⊳ star spots and stellar rotation (Bonomo & Lanza, 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ differential stellar rotation (Reinhold et al., 2013)⊳ spin–orbit ratio not exactly 8:1 (Béky et al., 2014a)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ stellar magnetic cycles (Estrela & Valio, 2016)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ stellar activity and rotation (Valio et al., 2017)⊳ planet radii in the presence of star spots from ingress and egress durations (Morris et al., 2018d)⊳

Kepler–18 3-planet system, outer two (c and d) near 2:1 mean motion resonance; discovery through transit time variations, radial velocity variations, and Spitzer observations (Cochran et al., 2011)⊳ masses from correlated transit time variations near mean motion resonance (Montet & Johnson, 2013)⊳

Kepler–19 3-planet system; planet d (non-transiting) from radial velocity; discovery of planet b, prediction of (non-transiting) planet c from transit time variations (Ballard et al., 2011b)⊳ small planets have low eccentricities (Van Eylen & Albrecht, 2015)⊳ confirmation of planet c and discovery of planet d (non-transiting) from radial velocity (Malavolta et al., 2017)⊳

Kepler–20 6-planet system, 3 sub-Neptune and 2 of Earth mass which are transiting; planet g (non-transiting) from radial velocity; three massive planets b, c, d and two low-mass candidates (Gautier et al., 2012)⊳ confirmation of the $1.0R_\oplus$ and $0.9R_\oplus$ planets e and f (Fressin et al., 2012b)⊳ analysis of phase variations over the orbit (Kane & Gelino, 2013)⊳ mapping of the interstellar medium (Johnson et al., 2015b)⊳ discovery of non-transiting planet g from radial velocity (Buchhave et al., 2016)⊳ effect of unseen additional perturber (Becker & Adams, 2017)⊳ application of scaling relations for rocky planet interiors (Zeng & Jacobsen, 2017)⊳

Kepler–21 discovery and asteroseismology (Howell et al., 2012)⊳ confirmation as single star from CHARA–PAVO (Huber et al., 2012)⊳ asteroseismology (Valliappan & Karoff, 2012)⊳ stellar companion from lucky imaging (Ginski et al., 2016)⊳ radial velocity measurements from TNG (López-Morales et al., 2016)⊳

Kepler–22 first Kepler habitable zone planet; discovery and location within habitable zone (Borucki et al., 2012)⊳ habitable zone (Neubauer et al., 2012)⊳ search for exomoons (Heller & Barnes, 2013)⊳ search for exomoons (Kipping et al., 2013)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–23 3-planet system; confirmation of planets b and c from correlated transit time variations and dynamical stability (Ford et al.,

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2012)⊳ host star properties from Kepler asteroseismology (Huber et al., 2013b)⊳ planet d from Kepler (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–24 4-planet system; confirmation of planets b and c from transit time variations and dynamical stability (Ford et al., 2012)⊳ planets c and d from Kepler (Rowe et al., 2014)⊳

Kepler–25 3-planet system, planets b and c from transits, planet d from radial velocity; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2012)⊳ low stellar obliquity from Rossiter–McLaughlin effect (Albrecht et al., 2013)⊳ host star properties from Kepler asteroseismology (Huber et al., 2013b)⊳ 3d spin–orbit angle from asteroseismology, light curve, and Rossiter–McLaughlin effect (Benomar et al., 2014)⊳ planet d, and improved masses, sizes, and orbits (Marcy et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ spin–orbit alignment from asteroseismology (Campante et al., 2016)⊳ smooth migration suggested by proximity to the periodic 2:1 mean motion resonance configuration (Migaszewski & Goździewski, 2018)⊳

Kepler–26 4-planet system; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2012)⊳ d and e from further light curve analysis (Rowe et al., 2014)⊳ gravitational quantisation of orbits (Geroyannis, 2015)⊳ dynamical masses from transit time variations (Jontof-Hutter et al., 2016)⊳ reversibility applied to orbital dynamics (Panichi et al., 2017)⊳

Kepler–27 2-planet system; confirmation from transit time variations and dynamical stability (Steffen et al., 2012)⊳

Kepler–28 2-planet system; confirmation from transit time variations and dynamical stability (Steffen et al., 2012)⊳

Kepler–29 2-planet system, likely in a 9:7 mean motion resonance; confirmation from transit time variations and dynamical stability (Fabrycky et al., 2012)⊳ dynamical masses from transit time variations (Jontof-Hutter et al., 2016)⊳ origin and dynamics of the 9:7 mean motion resonance (Migaszewski et al., 2017)⊳ migration-induced formation of the 9:7 resonance (Migaszewski, 2017)⊳ reversibility error method applied to orbital dynamics (Panichi et al., 2017)⊳

Kepler–30 3-planet system with TTVs exceeding 2 d; transit time variations and dynamical stability (Fabrycky et al., 2012)⊳ transits over star spot indicates orbits aligned with stellar equator (Sanchis-Ojeda et al., 2012)⊳ mass–radius relation (Batygin & Stevenson, 2013)⊳ transits over star spot (Sanchis-Ojeda et al., 2013b)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ orbit architecture, formation, long-term evolution (Panichi et al., 2018)⊳ TTV-determined masses for warm Jupiters and their close planetary companions (Wu et al., 2018)⊳

Kepler–31 3-planet system; confirmation of planets b and c from correlated transit time variations and dynamical stability (Fabrycky et al., 2012)⊳ planet d from light curve analysis (Rowe et al., 2014)⊳

Kepler–32 5-planet system; planets b and c from transit time variations and dynamical stability (Fabrycky et al., 2012)⊳ discovery of planets d, e, f, and evidence that planets formed at larger orbital radii and migrated inward (Swift et al., 2013)⊳ stellar activity from Kepler (Savanov & Dmitrienko, 2013)⊳ formation of tightly packed systems (Hands et al., 2014)⊳ host star photometric variability and rotation from Kepler (Savanov & Dmitrienko, 2015)⊳

Kepler–33 closely-packed 5-planet system; confirmation from statistics of multiple transits (Lissauer et al., 2012)⊳ analysis of phase variations over the orbit (Kane & Gelino, 2013)⊳ Titius–Bode type relation (Migaszewski et al., 2013)⊳

Kepler–34(AB) circumbinary planet; discovery (Welsh et al., 2012)⊳ difficulties with *in situ* formation (Paardekooper et al., 2012)⊳ analytic method for predicting eclipse timing variations (Armstrong et al., 2013)⊳ habitable zone (Kane & Hinkel, 2013)⊳ habitable zone (Liu et al., 2013)⊳ analytic theory for binary orbits (Leung & Lee, 2013)⊳ rotational synchronisation and the habitable zone (Mason et al., 2013)⊳ migration and gas accretion (Pierens & Nelson, 2013)⊳ climate modeling of habitable zone (Forgan, 2014)⊳ multi-orbital 'tight transits' (Liu et al., 2014b)⊳ formation models including planetesimal self-gravity exclude *in situ* formation (Lines et al., 2014)⊳ dynamical stability (Chavez et al., 2015)⊳ analytic orbit propagation for circumbinary planets (Georgakarakos & Eggl, 2015)⊳ evolution of circumbinary planets around eccentric binaries (Kley & Haghighipour, 2015)⊳ circumbinary modeling in protoplanetary disks (Lines et al., 2015)⊳ survival through post-common-envelope stage (Kostov et al., 2016a)⊳ scattering of circumbinary planets to explain orbit configuration (Gong & Ji, 2017)⊳ role of disk self-gravity in orbit evolution (Mutter et al., 2017)⊳ climate models (Wang & Cuntz, 2017)⊳ simulations of the debris disk dynamics (Demidova & Shevchenko, 2018)⊳

Kepler–35(AB) circumbinary planet; discovery (Welsh et al., 2012)⊳ difficulties with *in situ* formation (Paardekooper et al., 2012)⊳ analytic method for predicting eclipse timing variations (Armstrong et al., 2013)⊳ habitable zone (Kane & Hinkel, 2013)⊳ habitable zone (Liu et al., 2013)⊳ analytic theory for binary orbits (Leung & Lee, 2013)⊳ rotational synchronisation and the habitable zone (Mason et al., 2013)⊳ migration and gas accretion (Pierens & Nelson, 2013)⊳ climate modeling of habitable zone (Forgan, 2014)⊳ multi-orbital 'tight transits' (Liu et al., 2014b)⊳ dynamical stability (Chavez et al., 2015)⊳ analytic orbit propagation for circumbinary planets (Georgakarakos & Eggl, 2015)⊳ survival through the post-common-envelope stage (Kostov et al., 2016a)⊳ role of disk self-gravity in orbital evolution (Mutter et al., 2017)⊳ climate models (Wang & Cuntz, 2017)⊳ simulations of the debris disk dynamics (Demidova & Shevchenko, 2018)⊳

Kepler–36 2-planet system (rocky super-Earth and Neptune-like) near 7:6 mean motion resonance, with orbits differing by 10% but densities differing by a factor 8with orbits differing by 10% but densities differing by a factor 8 discovery and evidence for migration (Carter et al., 2012)⊳ chaotic orbits from proximity of 29:34 and first-order 6:7 resonances (Deck et al., 2012)⊳ photo-evaporation versus core mass explains small size of inner planets (Lopez & Fortney, 2013)⊳ system stability through dynamical modeling (Nagy & Ágas, 2013)⊳ anti-correlated transit time variations (Ofir & Dreizler, 2013)⊳ close spacing arises for wide range of migration parameters in turbulent disks (Paardekooper et al., 2013)⊳ orbit tuning for convergent migration to bypass mean motion resonances into 7:6 resonance (Quillen et al., 2013)⊳ effect of conjunctions on transit timing variations (Nesvorný & Vokrouhlický, 2014)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ constraints on the interior structure of planet b from mass and radius (Dorn et al., 2015)⊳ compositional diversity between planets b and c due to giant impact devolatisation (Liu et al., 2015)⊳ torques from an anisotropic evaporative wind, and evolution of resonant pairs (Teyssandier et al., 2015)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ initial planet conditions from formation models (Owen & Morton, 2016)⊳ close proximity planets and prospects for lithopanspermia (Steffen & Li, 2016)⊳ composition and structure from mass–radius models (Unterborn et al., 2016)⊳ reversibility error method applied to orbital dynamics (Panichi et al., 2017)⊳ dynamical studies focusing on grazing collisions, scatterings and mergers (Hwang et al., 2018a)⊳ constraints on spin evolution (Bryan et al., 2018)⊳

Kepler–37 4-planet system; discovery of planets b, c, d, with inferred rocky nature of planet b (Barclay et al., 2013b)⊳ planet d from transit timing variations (Hadden & Lithwick, 2014)⊳ new data providing improved masses, sizes, and orbits (Marcy et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–38(AB) circumbinary planet of Neptune-size; discovery (Orosz et al., 2012b)⊳ habitable zone (Liu et al., 2013)⊳ rotational synchronisation and the habitable zone (Mason et al., 2013)⊳ modeling, and sensitivity to disk structure (Kley & Haghighipour, 2014)⊳ dynamical stability (Chavez et al., 2015)⊳ analytic orbit propagation for circumbinary planets (Georgakarakos & Eggl, 2015)⊳ survival through the post-common-envelope stage (Kostov et al., 2016a)⊳ resonant capture and tidal evolution (Zoppetti et al., 2018)⊳

Kepler–39 $18M_{\rm J}$ planet; discovery and confirmation from radial velocity (Bouchy et al., 2011a)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ tentative detection of planetary oblateness (Zhu et al., 2014)⊳ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)⊳ limits on planet oblateness from transit depth variations (Biersteker & Schlichting, 2017)⊳

Kepler–40 planet transiting evolved subgiant; discovery and confirmation from radial velocity (Bouchy et al., 2011a)⊳ confirmation from radial velocity (Santerne et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ physical properties (Southworth, 2012)⊳ improved masses, sizes, and orbits (Marcy et al., 2014)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳

Kepler–41 non-inflated hot Jupiter; confirmation from radial velocity, secondary transit from Kepler (Santerne et al., 2011a)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ confirmation via phase curve analysis (Quintana et al., 2013)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve

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with beaming and ellipsoidal variations (Esteves et al., 2015)▷ atmospheric modeling, with westward phase shift of brightest region and substellar point explained by clouds (Shporer & Hu, 2015)▷

Kepler–42 3-planet system orbiting low-metallicity high proper motion M dwarf; confirmation from statistics of multiple transits (Muirhead et al., 2012)▷ rare example of short-period multi-planet system with close-proximity pairs (Steffen & Farr, 2013)▷ mapping of the interstellar medium (Johnson et al., 2015b)▷ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)▷

Kepler–43 confirmation from radial velocity (Bonomo et al., 2012)▷ photometry and new spectroscopy (Southworth, 2012)▷ radial velocities from HET–HRS (Endl et al., 2014)▷ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)▷ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)▷ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)▷

Kepler–44 confirmation from radial velocity (Bonomo et al., 2012)▷ photometry and new spectroscopy (Southworth, 2012)▷ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)▷ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)▷

Kepler–45 hot Jupiter orbiting M dwarf; photometry and new spectroscopy (Southworth, 2012)▷ confirmation from radial velocity, adaptive optics imaging, and near-infrared spectroscopy (Johnson et al., 2012)▷ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)▷ stellar obliquity and magnetic activity based on transit chord correlation (Dai et al., 2018)▷

Kepler–46 3-planet system; large transit time variations of planet b indicate non-transiting planet c, with transits of third candidate likely (Nesvorný et al., 2012)▷ confirmation of planet d from light curve (Rowe et al., 2014)▷ masses of planets b and c from transit timing variations (Saad-Olivera et al., 2017)▷

Kepler–47(AB) 2-planet circumbinary system (first multiple planet system around a binary star), third planet unconfirmed; planets of $3R_\oplus$ ($P = 49$ d) and $5R_\oplus$ ($P = 303$ d, habitable zone) orbiting a $P = 7.5$ d eclipsing binary; discovery and characterisation (Orosz et al., 2012a)▷ characterisation (Kostov et al., 2013)▷ determination of habitable zone (Kane & Hinkel, 2013)▷ determination of habitable zone (Liu et al., 2013)▷ rotational synchronisation and the habitable zone (Mason et al., 2013)▷ climate modeling of habitable zone (Forgan, 2014)▷ stability regions in a multi-planet circumbinary system (Kratter & Shannon, 2014)▷ multi-orbital 'tight transits', expected before 2025 (Liu et al., 2014b)▷ effects of X-ray and extreme ultraviolet radiation (Sanz-Forcada et al., 2014)▷ surface flux illumination and photosynthesis in circumbinary systems (Forgan et al., 2015)▷ third circumbinary planet could explain one anomalous transiting event (Hinse et al., 2015)▷ Milankovitch cycles in eccentricity, obliquity, and precession (Forgan, 2016)▷ survival through the post-common-envelope stage (Kostov et al., 2016a)▷ role of planet–planet scattering (Smullen et al., 2016)▷ habitability zones versus radiation and plasma environment (Zuluaga et al., 2016)▷

Kepler–48 4-planet system, three transiting (bcd, planets b and c near 2:1 resonance), planet e from radial velocity; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ new data confirming planet d, radial velocities for planet e, revised analysis of sizes and orbits (Marcy et al., 2014)▷ constraints on outer planets on inclined orbits (Read et al., 2017)▷ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)▷

Kepler–49 4-planet system, planets b and c near 3:2 resonance; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ discovery of planets d and e from light curve analysis (Rowe et al., 2014)▷

Kepler–50 2-planet system near 6:5 resonance; confirmation from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ asteroseismic obliquity determination (Chaplin et al., 2013)▷ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)▷

Kepler–51 3-planet system with planets b and c near 2:1 resonance; confirmation from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ three low-density planets suggested by transit time variations (Masuda, 2014)▷ planet d confirmed from light curve analysis (Rowe et al., 2014)▷

Kepler–52 3-planet system with planets b and c near 2:1 resonance; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ planet d from light curve analysis (Rowe et al., 2014)▷

Kepler–53 3-planet system with planets b and c near 2:1 resonance; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ planet d from light curve analysis (Rowe et al., 2014)▷ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)▷

Kepler–54 3-planet system with planets b and c near 2:1 resonance; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ planet d from light curve analysis (Rowe et al., 2014)▷

Kepler–55 5-planet system, planets b and c near 3:2 resonance; confirmation of planets b and c from transit time variations and dynamical stability (Steffen et al., 2013)▷ additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)▷ debris disk observations from WISE (Lawler & Gladman, 2012)▷ discovery of planets d, e, f from light curves (Rowe et al., 2014)▷

Kepler–56 3-planet system orbiting red giant ($3.1R_\odot$), planet d non-transiting; planets b and c near 2:1 resonance, coplanar, but misaligned with stellar spin axis; planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ large spin–orbit misalignment from asteroseismic analysis (Huber et al., 2013a)▷ eccentricities and densities from transit time variations (Hadden & Lithwick, 2014)▷ large observed obliquity consistent with dynamical origin rather than disk migration (Li et al., 2014)▷ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)▷ spin–orbit alignment from asteroseismology and confirmation as misaligned multi-planet system (Campante et al., 2016)▷ transit time variations (Holczer et al., 2016)▷ confirmation from probabilities (Morton et al., 2016)▷ discovery, orbit and mass of planet d from radial velocity modelling (Otor et al., 2016)▷ inner system tilt due to outer planet scattering (Gratia & Fabrycky, 2017)▷ inner system tilt due to Lidov–Kozai oscillation (Mustill et al., 2017)▷

Kepler–57 2-planets near 2:1 resonance; confirmation from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷

Kepler–58 3-planet system with planets b and c near 3:2 resonance; confirmation of planets b and c from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ planet d from light curve analysis (Rowe et al., 2014)▷

Kepler–59 2-planets near 3:2 resonance; confirmation from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷

Kepler–60 3-planets near 5:4 (b:c) and 4:3 (c:d) resonances; confirmation from correlated transit time variations and dynamical stability (Steffen et al., 2013)▷ tidal constraints from the 3-body resonance (Papaloizou, 2015)▷ nature and stability of the (generalised Laplace) 3-body resonance (Goździewski et al., 2016)▷ dynamical masses from transit time variations (Jontof-Hutter et al., 2016)▷ reversibility applied to orbital dynamics (Panichi et al., 2017)▷ hydrodynamical modeling of Laplace resonance formation (Dempsey & Nelson, 2018)▷ resonant chains via long-scale migration, short-scale migration, and/or eccentricity damping (MacDonald & Dawson, 2018)▷

Kepler–61 stellar proxy modeling (Ballard et al., 2013)▷ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)▷

Kepler–62 5-planet system ($1.3, 0.5, 1.9, 1.6, 1.4R_\oplus$), outer two in habitable zone; discovery (Borucki et al., 2013)▷ habitable zone H_2O-planet candidates (Kaltenegger et al., 2013)▷ lifetime of accompanying exomoons (Sasaki & Barnes, 2014)▷ model for tidally-evolving multiple systems using Mercury–T (Bolmont et al., 2015)▷ gravitational quantisation of orbits (Geroyannis, 2015)▷ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)▷ favourable for lightning-discharge studies during transit (Hodosán et al., 2016a)▷ orbital dynamics and mean motion resonances (Mia & Kushvah, 2016)▷ effect of orbital configuration on climate and habitability of planet f (Shields et al., 2016)▷ obliquity variations in planet f due to secular spin–orbit resonance (Deitrick et al., 2018)▷ obliquity variations of habitable zone planets (Shan & Li, 2018)▷

Kepler–63 high obliquity from Rossiter–McLaughlin effect, anomalous transits from star spots (Sanchis-Ojeda et al., 2013c)▷ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)▷ gyrochronology and isochrone ages (Maxted et al., 2015)▷ stellar magnetic cycles (Estrela & Valio, 2016)▷

Kepler–64(AB) PH–1 in NASA; transiting circumbinary planet in a quadruple (2+2) star system; discovery by Planet Hunters (Schwamb et al., 2013)▷ independent discovery (Kostov et al., 2013)▷ rotational synchronisation and the habitable zone (Mason et al., 2013)▷ climate modeling of habitable zone (Forgan, 2014)▷ dynamical stability (Chavez et al., 2015)▷ analytic orbit propagation for circumbinary

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planets (Georgakarakos & Eggl, 2015)⊳ survival through the post-common-envelope stage (Kostov et al., 2016a)⊳

Kepler–65 3-planet system; confirmation and asteroseismic determination of obliquity (Chaplin et al., 2013)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ eccentricity from transit photometry (Van Eylen & Albrecht, 2015)⊳

Kepler–66 in cluster NGC 6811; discovery, planets can form and survive in dense clusters (Meibom et al., 2013)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳

Kepler–67 in cluster NGC 6811; discovery, planets can form and survive in dense clusters (Meibom et al., 2013)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳

Kepler–68 3-planet system, planet d non-transiting and discovered from radial velocity; confirmation and detection of planet d from radial velocity, and asteroseismology (Gilliland et al., 2013)⊳ improved masses, sizes, and orbits (Marcy et al., 2014)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ stability of Earth-mass planets (Kane, 2015)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–69 2-planet system, with $1.7R_\oplus$ planet in habitable zone; confirmation via false positives (Barclay et al., 2013a)⊳ planet c as likely super-Venus (Kane et al., 2013)⊳

Kepler–70 KOI–55 in NASA; 2-planet compact system orbiting post-red giant, hot pulsating B subdwarf; discovery from orbital brightness variations, survival through red giant phase (Charpinet et al., 2011) ⊳ low-frequency 'reflection' signals attributed to stellar pulsation (Krzesinski, 2015)⊳

Kepler–71 KOI–217 in NASA; confirmation via false positives (Howell et al., 2010)⊳ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)⊳

Kepler–72 in preparation

Kepler–73 in preparation

Kepler–74 confirmation from radial velocity (Hébrard et al., 2013a)⊳ secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)⊳

Kepler–75 confirmation from radial velocity (Hébrard et al., 2013a)⊳ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)⊳

Kepler–76 listed in NASA with discovery method 'orbital brightness modulation'; confirmation from beaming, ellipsoidal and reflection/emission modulations, BEER (Faigler et al., 2013)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ Kepler phase curves with beaming, ellipsoidal, and reflection phase modulation (Faigler & Mazeh, 2015)⊳

Kepler–77 discovery (Gandolfi et al., 2013)⊳ radial velocities from HET–HRS (Endl et al., 2014)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ simple transit model (Ji et al., 2017)⊳ eclipse, transit and occultation geometry at exo-syzygy (Veras & Breedt, 2017)⊳

Kepler–78 $1.2R_\oplus$ rocky planet in 8.5-hr orbit; discovery, changing illumination from reflected and reprocessed light (Sanchis-Ojeda et al., 2013a)⊳ $\rho = 5.57\,\mathrm{Mg\,m^{-3}}$ implying Fe and rock (Pepe et al., 2013)⊳ rocky planet nature (Howard et al., 2013)⊳ slightly lower density (Hatzes, 2014)⊳ mass and density from stellar activity model (Grunblatt et al., 2015)⊳ close-in orbit from Kozai–Lidov cycles (Rice, 2015)⊳ magnetic properties of the host star (Moutou et al., 2016)⊳

Kepler–79 compact 4-planet system with periods near a 1:2:4:6 chain (13.5–81.1 d); candidates inferred from multiplicity and transit timing variations (Steffen et al., 2010)⊳ models of resonance formation (Wang et al., 2012a)⊳ confirmation of planets b and c (Xie, 2013)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳ discovery/confirmation of planets d and e from light curve analysis (Rowe et al., 2014)⊳ dynamical analysis, stability, and formation (Jontof-Hutter et al., 2014)⊳

Kepler–80 6-planet system, with a 5-planet resonant chain; discovery of planets b and c (Xie, 2013)⊳ discovery of planets d and e from light curve analysis (Rowe et al., 2014)⊳ dynamical analysis (MacDonald et al., 2016)⊳ planet f from light curve analysis (Morton et al., 2016)⊳ planet g discovered through a convolutional neural network search (Shallue & Vanderburg, 2018)⊳ resonant chains via long-scale migration, short-scale migration, and/or eccentricity damping (MacDonald & Dawson, 2018)⊳

Kepler–81 3-planet system; discovery of planets b and c (Xie, 2013)⊳ evidence for companion planets from transit timing variations (Steffen et al., 2010)⊳ activity and differential stellar rotation (Savanov, 2011)⊳ differential stellar rotation (Reinhold et al., 2013)⊳ discovery of planet d from light curve analysis (Rowe et al., 2014)⊳ host star photometric variability and rotation from Kepler (Savanov & Dmitrienko, 2015)⊳

Kepler–82 4-planet system; discovery of planets b and c (Xie, 2013)⊳ d and e from light curve analysis (Rowe et al., 2014)⊳

Kepler–83 3-planet system; discovery of planets b and c (Xie, 2013)⊳ discovery of planet d from light curve analysis (Rowe et al., 2014)⊳

Kepler–84 5-planet system; discovery of planets b and c (Xie, 2013)⊳ discovery of d, e, f from light curve analysis (Rowe et al., 2014)⊳

Kepler–85 4-planet system; discovery of planets b and c (Xie, 2013)⊳ confirmation via transit timing variations (Ming et al., 2013)⊳ discovery of planets d and e from light curve analysis (Rowe et al., 2014)⊳

Kepler–86 PH–2 in NASA; discovery (Wang et al., 2013a)⊳ discounted exomoon candidate (Kipping et al., 2015)⊳ stellar companion from lucky imaging (Ginski et al., 2016)⊳

Kepler–87 2-planet system including low density super-Earth; candidate (Ofir & Dreizler, 2013)⊳ discovery (Ofir et al., 2014)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳

Kepler–88 KOI–142 in NASA; 2-planet system, with planet c inferred from transit time variations; discovery (Nesvorný et al., 2013)⊳ confirmation of planet c from radial velocities (Barros et al., 2014b)⊳ chaotic spin dynamics from large transit timing variations (Delisle et al., 2017)⊳

Kepler–89 KOI–94 in NASA; 4-planet system, with planet–planet eclipse; radial velocities, planet d, and transit time variations (Weiss et al., 2013)⊳ confirmation, Rossiter–McLaughlin effect, planet–planet eclipse (Hirano et al., 2012)⊳ transit time analysis, and prediction of next planet–planet eclipse (Masuda et al., 2013)⊳ obliquity from Rossiter–McLaughlin effect (Albrecht et al., 2013)⊳ superrotating atmosphere in cyclostrophic balance (Peralta et al., 2014)⊳

Kepler–90 KOI–351 in NASA; 8-planet system; planets d, e, and f are super-Earths close to mean motion resonance chain (2:3:4), planets b and c (both $< 2R_\oplus$) within 0.5% of 4:5 mean motion resonance, planets g and h are gas giants with exceptional transit time variations (25.7 h for planet g); identification of three planets (Batalha et al., 2013)⊳ discovery of a further 4 planets, and system characterisation (Cabrera et al., 2014)⊳ independent characterisation (Schmitt et al., 2014b)⊳ possible exomoon is false positive (Kipping et al., 2015)⊳ planet i ($P = 14$ d) discovered through a convolutional neural network search (Shallue & Vanderburg, 2018)⊳ dynamics of tightly-packed planetary systems in the presence of an outer planet (Granados Contreras & Boley, 2018)⊳

Kepler–91 discovery (Lillo-Box et al., 2014b)⊳ secondary eclipses and phase variations (Esteves et al., 2013)⊳ radial velocity confirmation with Calar Alto–CAFE (Lillo-Box et al., 2014a)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ radial velocity observations and light curve noise modeling (Barclay et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ discarded Trojan planet candidate (Placek et al., 2015)⊳ radial velocity observations with Subaru–HDS (Sato et al., 2015)⊳ improved mass ratios (Budding et al., 2016a)⊳ effect of dynamical tides excited by gravity waves in the host star on planet's orbital evolution (Chernov et al., 2017)⊳

Kepler–92 3-planet system, planets b and c from transits, planet d from radial velocity; discovery (Xie, 2014)⊳ confirmation of planet d from transit time variations, and low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–93 2-planet system; discovery of planet b through transits, planet c by radial velocity (Marcy et al., 2014)⊳ asteroseismic study and 7 Spitzer transits lead to planet size uncertainty of 120 km (Ballard et al., 2014)⊳ revised mass from 86 observations with HARPS–N and 32 archival Keck–HIRES (Dressing et al., 2015)⊳ planet structure from stellar chemistry (Santos et al., 2015a)⊳ core mass fraction from semi-empirical mass–radius relation for 2-layer rocky planets based on PREM (Zeng et al., 2016)⊳ Bayesian analysis of interior structure using stellar abundance proxies (Dorn et al., 2017)⊳ application of scaling relations for rocky planet interiors (Zeng & Jacobsen, 2017)⊳

Kepler–94 2-planet system; discovery of planet b through transits, planet c by radial velocity (Marcy et al., 2014)⊳

Kepler–95 discovery (Marcy et al., 2014)⊳

Kepler–96 discovery (Marcy et al., 2014)⊳ superflare ultraviolet impact on habitability (Estrela & Valio, 2018)⊳

Kepler–97 2-planet system; discovery of planet b through transits, planet c by radial velocity (Marcy et al., 2014)⊳

Kepler–98 discovery (Marcy et al., 2014)⊳

Kepler–99 discovery (Marcy et al., 2014)⊳

Kepler–100 3-planet system; discovery (Marcy et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)⊳

Kepler–101 2-planet system; discovery (Rowe et al., 2014)⊳ confirmation with HARPS–N (Bonomo et al., 2014)⊳

Kepler–102 5-planet system; discovery (Marcy et al., 2014)⊳ discovery characterisation (Wang et al., 2014a)⊳

Kepler–103 2-planet system; discovery (Marcy et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–104 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–105 2-planet system; discovery (Wang et al., 2014a)⊳ discovery and characterisation (Rowe et al., 2014)⊳ difficulty explaining 4:3 mean motion resonance (Rein et al., 2012)⊳

Kepler–106 4-planet system; discovery (Marcy et al., 2014)⊳

Kepler–107 4-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–108 2-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ mutual inclination from transit time and transit duration analysis, $\Delta i = 24°$ (Mills & Fabrycky, 2017a)⊳ system architecture inner system tilt due to Lidov–Kozai oscillation (Mustill et al., 2017)⊳

Kepler–109 2-planet system; discovery (Marcy et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–110 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–111 2-planet system; discovery (Rowe et al., 2014)⊳ additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳

Kepler–112 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–113 2-planet system; discovery (Marcy et al., 2014)⊳

Kepler–114 3-planet system; planet b (Rowe et al., 2014)⊳ planets c and d (Xie, 2014)⊳

Kepler–115 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–116 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–117 2-planet system; discovery (Rowe et al., 2014)⊳ joint photometric, spectroscopic, and dynamical analysis (Bruno et al., 2015)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳ masses and radii from photo-dynamical modeling (Almenara et al., 2015c)⊳ TTV-determined masses for warm Jupiters and their close planetary companions (Wu et al., 2018)⊳

Kepler–118 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–119 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–120 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–121 2-planet system; discovery (Rowe et al., 2014)⊳ additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳

Kepler–122 5-planet system; discovery of planets b, c, d, e (Rowe et al., 2014)⊳ planet f from transit time variations (Hadden & Lithwick, 2014)⊳

Kepler–123 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–124 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–125 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–126 3-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–127 3-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–128 2-planet system; discovery (Xie, 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–129 2-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–130 3-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–131 2-planet system; discovery (Marcy et al., 2014)⊳

Kepler–132 4-planet system; discovery (Rowe et al., 2014)⊳ confirmation and planet e (Morton et al., 2016)⊳

Kepler–133 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–134 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–135 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–136 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–137 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–138 3-planet system; discovery of planet b (Rowe et al., 2014)⊳ planets c and d, and search for exomoon (Kipping et al., 2014a)⊳ Mars-sized mass of planet b from transit timing variations (Jontof-Hutter et al., 2015)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳ stellar chemical abundances for 13 elements (Souto et al., 2017)⊳ absolute densitiesfrom photo-dynamical modelling (Almenara et al., 2018)⊳

Kepler–139 . . . Kepler–144 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–145 2-planet system; discovery (Xie, 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–146 2-planet system discovery (Rowe et al., 2014)⊳

Kepler–147 2-planet discovery (Rowe et al., 2014)⊳

Kepler–148 3-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–149 3–planet system; discovery (Rowe et al., 2014)⊳

Kepler–150 5–planet system; discovery (Rowe et al., 2014)⊳ discovery of planet f (Schmitt et al., 2017)⊳ independent discovery of planets b–e (Kunimoto et al., 2018)⊳

Kepler–151 2–planet system; discovery (Rowe et al., 2014)⊳

Kepler–152 2–planet system; discovery (Rowe et al., 2014)⊳

Kepler–153 2–planet system; discovery (Rowe et al., 2014)⊳

Kepler–154 5-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ candidate 6-planet system from independent light curve analysis (Ofir & Dreizler, 2013)⊳ independent discovery of long-period candidate (Foreman-Mackey et al., 2016)⊳ confirmation of planets b–from light curve analysis (Morton et al., 2016)⊳

Kepler–155 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–156 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–157 3-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–158 . . . Kepler–165 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–166 3-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–167 4-planet system, with planet e being a first transiting Jupiter analogue ($R_p = 0.9 R_J$, $e = 0.06$, $P = 2.9$ yr, $T_{eq} = 131$ K); discovery (Rowe et al., 2014)⊳ independent discovery of planet e (Foreman-Mackey et al., 2016)⊳ nature of planet e (Kipping et al., 2016)⊳

Kepler–168 . . . Kepler–173 2-, 3-, 4-, and 5-planet systems; discovery (Rowe et al., 2014)⊳ Amongst these:
Kepler–170: dynamical rearrangement of super-Earths during disk dispersal by magnetospheric rebound (Liu et al., 2017)⊳

Kepler–174 3-planet system; discovery (Rowe et al., 2014)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–175 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–176 4-planet system; discovery of planets b–d (Rowe et al., 2014)⊳ discovery of planet e (Morton et al., 2016)⊳

Kepler–177 2-planet system; discovery (Xie, 2014)⊳ dynamical masses from transit time variations (Jontof-Hutter et al., 2016)⊳

Kepler–178 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–179 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–180 2-planet system; discovery (Rowe et al., 2014)⊳ dynamical rearrangement of super-Earths during disk dispersal by magnetospheric rebound (Liu et al., 2017)⊳

Kepler–181 2-planet system; discovery (Rowe et al., 2014)⊳ difficulty explaining 4:3 mean motion resonance (Rein et al., 2012)⊳

Kepler–182 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–183 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–184 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–185 2-planet system; discovery (Rowe et al., 2014)⊳

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Kepler–186 5-planet system, all roughly Earth-sized; discovery of planets b, c, d, e (Rowe et al., 2014)⊳ planet f ($1.1R_\oplus$) in habitable zone, from additional year of Kepler data (Quintana et al., 2014)⊳ formation, tidal evolution, habitability (Bolmont et al., 2014)⊳ mapping of the interstellar medium (Johnson et al., 2015b)⊳ confirmed statistical validation of planet f, BLENDER (Torres et al., 2015)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳ favourable for lightning-discharge studies during transit (Hodosán et al., 2016a)⊳ variable incident flux due to obliquity and eccentricity (Kane & Torres, 2017)⊳ stellar chemical abundances for 13 elements (Souto et al., 2017)⊳ obliquity variations of habitable zone planets (Shan & Li, 2018)⊳

Kepler–187 . . . Kepler–190 2-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–191 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–192 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)⊳

Kepler–193 . . . Kepler–196 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–197 4-planet system; discovery (Rowe et al., 2014)⊳ eccentricity from transit photometry (Van Eylen & Albrecht, 2015)⊳

Kepler–198 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–199 . . . Kepler–207 2-, 3-, and 4-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–208 4-planet system; discovery (Rowe et al., 2014)⊳ additional single transits (Schmitt et al., 2017)⊳

Kepler–209 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–210 2-planet system; discovery (Rowe et al., 2014)⊳ short-period Neptune-size planets around active host star (Ioannidis et al., 2014)⊳ spot evolution and differential rotation (Ioannidis & Schmitt, 2016)⊳

Kepler–211 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–212 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–213 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–214 2-planet system; discovery (Rowe et al., 2014)⊳ new long-period candidate (Foreman-Mackey et al., 2016)⊳

Kepler–215 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–216 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–217 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–218 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–219 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–220 4-planet system; discovery (Rowe et al., 2014)⊳ additional candidates from light curve analysis (Ofir & Dreizler, 2013)⊳

Kepler–221 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–222 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–223 4-planet system in a 3:4:6:8 resonant chain; discovery (Rowe et al., 2014)⊳ chain of first-order resonances: period ratios 3:4:6:8 to within 10^{-3} (Fabrycky et al., 2011); orbit-crossing planetesimals (Moore et al., 2013)⊳ migration models yield order of multi-planet resonant capture (Delisle, 2017)⊳ resonant chains via long-scale migration, short-scale migration, and/or eccentricity damping (MacDonald & Dawson, 2018)⊳

Kepler–224 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–225 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–226 3-planet system; discovery (Rowe et al., 2014)⊳ difficulty explaining 4:3 mean motion resonance (Rein et al., 2012)⊳

Kepler–227 . . . Kepler–231 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–232 2-planet system; discovery (Rowe et al., 2014)⊳ difficulty explaining 4:3 mean motion resonance (Rein et al., 2012)⊳

Kepler–233 . . . Kepler–237 2-, 3-, and 4-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–238 5-planet system; discovery of planets b, c, d (Rowe et al., 2014)⊳ planets e and f (Xie, 2014)⊳ migration and trapping in the 4:2:1 mean motion resonance (Sun et al., 2017b)⊳

Kepler–239 . . . Kepler–244 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–245 4-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planets d–e (Morton et al., 2016)⊳

Kepler–246 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–247 3-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ outer non-transiting candidate from transit time variations (Nesvorný et al., 2014)⊳ effect of conjunctions on transit timing variations (Nesvorný & Vokrouhlický, 2014)⊳

Kepler–248 2-planet system; discovery (Rowe et al., 2014)⊳ evidence for companion planets from transit timing variations (Steffen et al., 2010)⊳ activity and differential stellar rotation (Savanov, 2011)⊳ differential stellar rotation (Reinhold et al., 2013)⊳ stellar variability and rotation from Kepler (Savanov & Dmitrienko, 2015)⊳

Kepler–249 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–250 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–251 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–252 2-planet system; discovery (Rowe et al., 2014)⊳ presence and origin of high-order harmonics in Kepler light curves (Armstrong & Rein, 2015)⊳

Kepler–253 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–254 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–255 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–256 . . . Kepler–260 2-, 3-, and 4-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–261 2-planet system; discovery (Rowe et al., 2014)⊳ measurement of stellar inclination (Hirano et al., 2014)⊳

Kepler–262 . . . Kepler–270 2-, 3-, and 4-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–271 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–272 . . . Kepler–275 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳ gravitational quantisation of orbits (Geroyannis, 2015)⊳

Kepler–276 3-planet system; discovery of planet b (Rowe et al., 2014)⊳ planets c, d (Xie, 2014)⊳

Kepler–277 2-planet system; discovery (Xie, 2014)⊳

Kepler–278 2-planet system; discovery (Rowe et al., 2014)⊳ low eccentricity from transit duration (Van Eylen & Albrecht, 2015)⊳

Kepler–279 3-planet system; discovery of planet b (Rowe et al., 2014)⊳ confirmation via transit timing variations (Ming et al., 2013)⊳ planets c and d (Xie, 2014)⊳

Kepler–280 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–281 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–282 4-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ planets d and e (Xie, 2014)⊳

Kepler–283 2-planet system; discovery (Rowe et al., 2014)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–284 . . . Kepler–288 2-, 3-, and 4-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–289 3-planet system; discovery of planets b and c (Rowe et al., 2014)⊳ planet d (Schmitt et al., 2014a)⊳

Kepler–290 . . . Kepler–295 2-, 3-, 4-, 5-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–296 5-planet circumprimary system; discovery (Rowe et al., 2014)⊳ planets orbit the primary star (Barclay et al., 2015b)⊳ confirmed statistical validation of planets e and f, BLENDER (Torres et al., 2015)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–297 2-planet system; discovery (Rowe et al., 2014)⊳ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)⊳

Kepler–298 3-planet system; discovery (Rowe et al., 2014)⊳ host star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–299 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–300 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–301 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–302 2-planet system; discovery (Rowe et al., 2014)⊳ migration and trapping in the 4:2:1 mean motion resonance (Sun et al., 2017b)⊳ TTV-determined masses for warm Jupiters and their close planetary companions (Wu et al., 2018)⊳

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Kepler–303 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–304 4-planet system; discovery of planets b–d (Rowe et al., 2014)⊳ discovery of planet e (Morton et al., 2016)⊳

Kepler–305 3-planet system; discovery of planets b and c (Xie, 2014)⊳ confirmation via transit timing variations (Ming et al., 2013)⊳ planet d (Rowe et al., 2014)⊳

Kepler–306 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–307 2-planet system; discovery (Xie, 2014)⊳ dynamical masses from transit time variations (Jontof-Hutter et al., 2016)⊳

Kepler–308 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–309 2-planet system; discovery (Rowe et al., 2014)⊳ additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳

Kepler–310 . . . Kepler–327 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–328 2-planet system; discovery (Xie, 2014)⊳

Kepler–329 . . . Kepler–337 2- and 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–338 4-planet system; discovery of planets b, c, d (Rowe et al., 2014)⊳ discovery of planet e from transit timing variations (Hadden & Lithwick, 2014)⊳ eccentricity from transit photometry (Van Eylen & Albrecht, 2015)⊳

Kepler–339 3-planet system; discovery (Rowe et al., 2014)⊳

Kepler–340 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–341 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–342 4-planet system; discovery of planets b–d (Rowe et al., 2014)⊳ discovery of planet e (Morton et al., 2016)⊳

Kepler–343 . . . Kepler–349 2-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–350 3-planet system; discovery of planet b (Rowe et al., 2014)⊳ planets c and d (Xie, 2014)⊳

Kepler–351 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–352 . . . Kepler–395 2-, 3-planet systems; discovery (Rowe et al., 2014)⊳

Kepler–396 2-planet system; discovery (Xie, 2014)⊳ confirmation via transit timing variations (Ming et al., 2013)⊳

Kepler–397 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–398 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–399 3-planet system; discovery (Rowe et al., 2014)⊳ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)⊳

Kepler–400 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–401 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–402 4-planet system; discovery (Rowe et al., 2014)⊳

Kepler–403 3-planet system; discovery of planets b–c (Rowe et al., 2014)⊳ discovery of planet d (Morton et al., 2016)⊳

Kepler–404 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–405 2-planet system; discovery (Rowe et al., 2014)⊳

Kepler–406 2-planet system; discovery (Marcy et al., 2014)⊳

Kepler–407 2-planet system; planet b discovered from transits, planet d from radial velocity (Marcy et al., 2014)⊳

Kepler–408 discovery (Marcy et al., 2014)⊳

Kepler–409 discovery (Marcy et al., 2014)⊳

Kepler–410A confirmation through asteroseismology, adaptive optics imaging, and Spitzer, and transit timing variations (Van Eylen et al., 2014)⊳ transit timing variations (Mazeh et al., 2013)⊳ TTVs and properties of the perturbing body (Gajdoš et al., 2017)⊳

Kepler–411 2-planet system; discovery of planet b (Wang et al., 2014a)⊳ discovery of planet c (Morton et al., 2016)⊳

Kepler–412 discovery, and combination with radial velocities from SOPHIE (Deleuil et al., 2014)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ planet radii in the presence of star spots from ingress and egress durations (Morris et al., 2018d)⊳

Kepler–413(AB) circumbinary planet orbiting eclipsing binary system, with sections of hundreds of days without transits from precession; discovery (Kostov et al., 2014)⊳ dynamical stability (Chavez et al., 2015)⊳ analytic orbit propagation for circumbinary planets (Georgakarakos & Eggl, 2015)⊳ scattering of circumbinary planets to explain the orbital configuration (Gong & Ji, 2017)⊳ dynamical stability confined by 6:1 and 7:1 mean motion resonances (Popova, 2017)⊳ climate models (Wang & Cuntz, 2017)⊳ orbital alignment of circumbinary planets that form in misaligned circumbinary disk (Pierens & Nelson, 2018)⊳

Kepler–414 2-planet system; discovery from transit time variations (Hadden & Lithwick, 2014)⊳

Kepler–415 2-planet system; discovery from transit time variations (Hadden & Lithwick, 2014)⊳

Kepler–416 2-planet system; discovery from transit time variations (Hadden & Lithwick, 2014)⊳

Kepler–417 2-planet system; discovery from transit time variations (Hadden & Lithwick, 2014)⊳

Kepler–418 discovery/confirmation based on transit colour signature (Tingley et al., 2014)⊳ TTV-determined masses for warm Jupiters and their close planetary companions (Wu et al., 2018)⊳

Kepler–419 2-planet hot Jupiter system; discovery of planet b from transits and planet c from transit time variations (Dawson et al., 2012)⊳ planet characterisation from transit time variations, with low mutual inclination, $\Delta = 9°$ (Dawson et al., 2014)⊳ alternative stable orbit solution obtained by genetic algorithms (Carpintero & Melita, 2018)⊳

Kepler–420 KOI–1257 in NASA; long-period (87 d) high eccentricity (0.77) orbit; confirmation from SOPHIE and Rossiter–McLaughlin effect (Santerne et al., 2014)⊳ climate models (Wang & Cuntz, 2017)⊳

Kepler–421 near circular orbit near snow line ($P = 704$ d); discovery (Kipping et al., 2014b)⊳ no timing variations in third observed transit (Dalba & Muirhead, 2016)⊳ new long-period candidate (Foreman-Mackey et al., 2016)⊳

Kepler–422 discovery/confirmation from HET–HRS (Endl et al., 2014)⊳

Kepler–423 discovery and confirmation from HET–HRS (Endl et al., 2014)⊳ radial velocities from NOT–FIES (Gandolfi et al., 2015)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳

Kepler–424 2-planet system; discovery of planet b from transits, planet c from radial velocity with HET–HRS (Endl et al., 2014)⊳

Kepler–425 discovery and confirmation with SOPHIE and HARPS–N (Hébrard et al., 2014)⊳

Kepler–426 discovery and confirmation with SOPHIE and HARPS–N (Hébrard et al., 2014)⊳

Kepler–427 discovery and confirmation with SOPHIE and HARPS–N (Hébrard et al., 2014)⊳ precession period and planet oblateness from transit depth variations (Biersteker & Schlichting, 2017)⊳

Kepler–428 discovery and confirmation with SOPHIE and HARPS–N (Hébrard et al., 2014)⊳

Kepler–429 KIC–10001893 in NASA; 3-planet system orbiting post-red giant, hot B subdwarf; discovery from pulsation frequency modulation (Silvotti et al., 2014)⊳

Kepler–430 2-planet system; discovery and high resolution multicolour imaging (Everett et al., 2015)⊳

Kepler–431 3-planet system; discovery and high resolution multicolour imaging (Everett et al., 2015)⊳

Kepler–432 2-planet system, planet b discovered from transits, planet c from radial velocity; confirmation of planet b from CAHA–CAFE (Ciceri et al., 2015a)⊳ further analysis of CAHA–CAFE radial velocities (Ortiz et al., 2015)⊳ independent discovery of planet b, discovery of planet c, asteroseismic oscillations of host star (Quinn et al., 2015)⊳

Kepler–433 validation with SOPHIE (Almenara et al., 2015b)⊳

Kepler–434 grazing transit; validation with SOPHIE (Almenara et al., 2015b)⊳

Kepler–435 validation with SOPHIE (Almenara et al., 2015b)⊳

Kepler–436 2-planet system; statistical validation of planet b, BLENDER (Torres et al., 2015)⊳ discovery of planet c (Morton et al., 2016)⊳

Kepler–437 statistical validation, BLENDER (Torres et al., 2015)⊳ mapping of the interstellar medium (Johnson et al., 2015b)⊳

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Kepler–438 statistical validation, BLENDER (Torres et al., 2015)⊳ star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–439 statistical validation, BLENDER (Torres et al., 2015)⊳ validation with multicolour transit photometry (Colón et al., 2015)⊳

Kepler–440 statistical validation, BLENDER (Torres et al., 2015)⊳ star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–441 statistical validation, BLENDER (Torres et al., 2015)⊳

Kepler–442 statistical validation, BLENDER (Torres et al., 2015)⊳ star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–443 statistical validation, BLENDER (Torres et al., 2015)⊳ star properties of Kepler's habitable planets (Armstrong et al., 2016b)⊳

Kepler–444 5-planet system around primary (Kepler–444A) of a metal-poor triple star with age 11.2 ± 1.0 Gyr; discovery (Campante et al., 2015)⊳ mapping of the interstellar medium (Johnson et al., 2015b)⊳ confirmation from transit time variations (Van Eylen & Albrecht, 2015)⊳ unresolved pair of M dwarfs (Kepler–444BC) at 66 au, and constraints on co-planarity, disk truncation, and formation (Dupuy et al., 2016)⊳ migration times from formation models (Papaloizou, 2016)⊳ eclipse, transit and occultation geometry at exo-syzygy (Veras & Breedt, 2017)⊳ Ly-α variations from the host star (Bourrier et al., 2017c)⊳ transit timing variations and masses of planets d and e (Mills & Fabrycky, 2017b)⊳ host star chemical analysis (Mack et al., 2018)⊳

Kepler–445 3-planet system; confirmation by high contrast imaging with Keck–NIRC2 (Muirhead et al., 2015)⊳ revised transit depth from Lowell–DCT identified Kepler results contaminated by stellar crowding (Dalba et al., 2017)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳

Kepler–446 3-planet system, metal-poor M dwarf with high space velocity; confirmation by high contrast imaging with Keck–NIRC2 (Muirhead et al., 2015)⊳

Kepler–447 grazing transit; discovery from radial velocity with Calar Alto–CAFE (Lillo-Box et al., 2015)⊳

Kepler–448 KOI–12 in NASA; discovery, radial velocity and line-profile tomography with SOPHIE (Bourrier et al., 2015a)⊳ Rossiter–McLaughlin effect (Johnson et al., 2017)⊳ eccentric companion from transit timing and transit duration variations (Masuda, 2017)⊳

Kepler–449 2-planet system; discovery from transit time variations (Van Eylen & Albrecht, 2015)⊳

Kepler–450 3-planet system; discovery from transit time variations (Van Eylen & Albrecht, 2015)⊳ resonance chains explained through mass accretion and outward migration (Wang & Ji, 2017)⊳

Kepler–451 2MASS J19383260+4603591 in NASA; listed in NASA with discovery method 'eclipse timing variations'; periodic variation in timing signal attributed to $1.9M_J$ planet in the sdB+M dwarf binary system 2M J1938+4603 (Baran et al., 2015)⊳ pre-discovery of a multi-mode pulsating sdB star with an eclipsing dM companion (Østensen et al., 2010)⊳ Rømer delay and binary mass ratio (Barlow et al., 2012)⊳

Kepler–452 Earth-like exoplanet in the habitable zone of a Sun-like star; discovery, and Earth-like properties (Jenkins et al., 2015)⊳ estimates of surface habitability (Silva et al., 2017)⊳ climate and habitability from coupled atmosphere–ocean GCM (Hu et al., 2017)⊳ possibility that the planet transits arise from noise (Mullally et al., 2018)⊳

Kepler–453(AB) 10th Kepler circumbinary planet; discovery (Welsh et al., 2015)⊳ habitability zones versus radiation and plasma environment (Zuluaga et al., 2016)⊳

Kepler–454 2-planet system, planet b discovered from transits, planet c from radial velocity; discovery (Gettel et al., 2016)⊳

Kepler–455 KIC–3558849 in NASA; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–456 KIC–5951458 in NASA; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–457 KOI–7892 in NASA; 2-planet system; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–458 KIC–9663113 in NASA; 2-planet system; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–459 KIC–10525077 in NASA; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–460 KIC–5437945 in NASA; 2-planet system; discovery by Planet Hunters (Wang et al., 2015)⊳

Kepler–461 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–462 confirmation from false-positive probabilities (Morton et al., 2016)⊳ possible 2-planet system, and constraints on spin–orbit misalignments (Ahlers et al., 2015)⊳

Kepler–463 . . . Kepler–480 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳

Kepler–481 confirmation from false-positive probabilities (Morton et al., 2016)⊳ evidence for companion planet(s) from transit timing variations (Steffen et al., 2010)⊳

Kepler–482 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–483 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–484 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–485 confirmation from false-positive probabilities (Morton et al., 2016)⊳ exomoon candidate from excess photometric transit scatter (Szabó et al., 2013)⊳

Kepler–486 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–487 2-planet system from false-positive probabilities (Morton et al., 2016)⊳ multiple transiting candidates (Steffen et al., 2010)⊳ TTV-determined masses for warm Jupiters and their close planetary companions (Wu et al., 2018)⊳

Kepler–488 . . . Kepler–491 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–492 discovery (Díaz et al., 2013)⊳ radial velocities from SOPHIE and HARPS–N (Bonomo et al., 2015)⊳ confirmation (Morton et al., 2016)⊳

Kepler–493 . . . Kepler–538 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ Amongst these:
object at the H-burning mass limit orbiting a subgiant star (Cañas et al., 2018)⊳

Kepler–539 2-planet system; discovery of planet b (Morton et al., 2016)⊳ discovery of planet c (Mancini et al., 2016c)⊳

Kepler–540 . . . Kepler–559 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ A few Kepler–NNN are absent from this sequence. Amongst these:
Kepler–553: additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳

Kepler–560 confirmation from false-positive probabilities (Morton et al., 2016)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳

Kepler–561 . . . Kepler–761 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ with higher multiplicities in the cases of Kepler–603(3), and Kepler–758(4). Amongst these:
Kepler–598: additional planets predicted from packed planetary systems hypothesis (Fang & Margot, 2012)⊳
Kepler 635: transit signals hidden in the intrinsic stellar pulsations (Sowicka et al., 2017)⊳
Kepler–656: validation with multicolour transit photometry (Colón et al., 2015)⊳
Kepler–693: eccentric companion from transit timing and transit duration variations (Masuda, 2017)⊳
Kepler–718: exomoon candidate from photometric transit scatter (Szabó et al., 2013)⊳
Kepler–736: debris disk from WISE (Lawler & Gladman, 2012)⊳

Kepler–762 discovery from false-positive probabilities (Morton et al., 2016)⊳ prograde versus retrograde motion from star spot transit timing (Holczer et al., 2015)⊳ phase modulation due to beaming, ellipsoidal effect and reflection (Lillo-Box et al., 2016b)⊳

Kepler–763 . . . Kepler–973 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ with higher multiplicities in the cases of Kepler–770(3). Amongst these:
Kepler–767: debris disk from WISE (Lawler & Gladman, 2012)⊳
Kepler–770: new long-period candidate (Foreman-Mackey et al., 2016)⊳
Kepler–891: debris disk from WISE (Lawler & Gladman, 2012)⊳

Kepler–974 confirmation of planet b from false-positive probabilities, $p = 4.1$ d (Morton et al., 2016)⊳ unconfirmed $P = 4.24$ h candidate KOI–1843.03 (Ofir & Dreizler, 2013)⊳ Roche limit for unconfirmed candidate KOI–1843.03 (Rappaport et al., 2013)⊳

Kepler–975 . . . Kepler–1003 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ Amongst these:

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Kepler–989: new long-period candidate (Foreman-Mackey et al., 2016)⊳

Kepler–1004 confirmation from false-positive probabilities (Morton et al., 2016)⊳ radial velocities from Subaru–HDS (Sato et al., 2015)⊳

Kepler–1005 . . . Kepler–1114 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳

Kepler–1115 discovery from false-positive probabilities (Morton et al., 2016)⊳ second super-Earth with a measured spin–orbit alignment (after 55 Cnc e), determined from rotational gravity darkening, and the first which is aligned (Barnes et al., 2015a)⊳

Kepler–1116 . . . Kepler–1318 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ with higher multiplicities in the case of Kepler–1254(3).

Kepler–1319 discovery and confirmation from false-positive probabilities (Morton et al., 2016)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳

Kepler–1320 . . . Kepler–1516 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ with higher multiplicities in the case of Kepler–1388(4)

Kepler–1517 confirmation from false-positive probabilities (Morton et al., 2016)⊳ phase modulation due to beaming, ellipsoidal effect and reflection (Lillo-Box et al., 2016b)⊳

Kepler–1518 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–1519 confirmation from false-positive probabilities (Morton et al., 2016)⊳

Kepler–1520 ≡ KIC–12557548; disintegrating short-period Mercury-size planet; discovery (Rappaport et al., 2012)⊳ evidence for disintegration from detailed transit modeling (Brogi et al., 2012a)⊳ comet-like tail from light curve analysis (Budaj, 2013)⊳ star spot versus transit depth relation (Kawahara et al., 2013)⊳ implications from implied catastrophic evaporation (Perez-Becker & Chiang, 2013)⊳ multi-wavelength observations with HST–WFC3, Keck, CFHT–WIRCam (Croll et al., 2014)⊳ light curve analysis (Budaj, 2014)⊳ search for circumplanetary material and orbital period variations (Garai et al., 2014)⊳ analysis of 15 quarters of Kepler data (van Werkhoven et al., 2014a)⊳ constraints on dust composition (van Lieshout et al., 2014)⊳ direct evidence for an evolving dust cloud from ULTRACAM (Bochinski et al., 2015)⊳ relation between transit depths and stellar rotation period (Croll et al., 2015b)⊳ size and composition of dust grains, and mass loss rate, from light curve (van Lieshout et al., 2016)⊳ transit profile in the context of artificial megastructures (Wright et al., 2016b)⊳ dusty tail consistent with length and mass observed by Kepler (Schlawin et al., 2018b)⊳

Kepler–1521 . . . Kepler–1624 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳ with higher multiplicities in the case of Kepler–1542(4)

Kepler–1625 confirmation from false-positive probabilities (Morton et al., 2016)⊳ exomoon candidate from phase-folded transit light curve (Teachey et al., 2018)⊳ tidal capture origin for the exomoon candidate (Hamers & Portegies Zwart, 2018)⊳ nature of the giant exomoon candidate (Heller, 2018)⊳ exomoon signal sensitive to the data detrending procedure (Rodenbeck et al., 2018)⊳ detectability of massive exomoons around directly imaged exoplanets via Doppler spectroscopy (Vanderburg et al., 2018)⊳

Kepler–1626 . . . Kepler–1646 1- and 2-planet systems from false-positive probabilities (Morton et al., 2016)⊳

Kepler–1647(AB) long-period (1100-d) transiting circumbinary; planet displays three transits in the Kepler light curve, one during an eclipse creating a syzygy; discovery (Kostov et al., 2016b)⊳ survival through the post-common-envelope stage (Kostov et al., 2016a)⊳ climate models (Wang & Cuntz, 2017)⊳

Kepler–1648 KIC–7917485 in NASA; $12M_{\rm J}$, $P = 840$ d, $e = 0.15$; discovery from pulsational phase shifts in the host A star induced by orbital motion (Murphy et al., 2016)⊳

Kepler–1649 discovery (Angelo et al., 2017)⊳

Kepler–1650 discovery and confirmation from transit timing variations (Holczer et al., 2016)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳

Kepler–1651 discovery and confirmation from transit timing variations (Holczer et al., 2016)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ star and planet parameters from Hawaii Infrared Parallax Program (Mann et al., 2017a)⊳

Kepler–1652 discovery and confirmation from transit timing variations (Holczer et al., 2016)⊳ confirmation from optical/near-infrared spectroscopy and high-resolution imaging (Torres et al., 2017)⊳

Kepler–1653 discovery and confirmation from transit timing variations (Holczer et al., 2016)⊳ confirmation from optical/near-infrared spectroscopy and high-resolution imaging (Torres et al., 2017)⊳

Kepler–1654* confirmation and characterisation (Beichman et al., 2018)⊳

Kepler–1655* discovery (Haywood et al., 2018)⊳

Kepler–1656* discovery (Brady et al., 2018)⊳

Kepler–1657* KOI–3680 in NASA; discovery (Hebrard et al., 2018)⊳

KIC

(identifiers used as default alias in NASA Exoplanet Archive)

KIC–3542116 not a planet, and not in NASA; system with probable transiting exocomets (Rappaport et al., 2018)⊳

KIC–3558849 see Kepler–455

KIC–5437945 see Kepler–460

KIC–5951458 see Kepler–456

KIC–7917485 see Kepler–1648

KIC–8462852 Boyajian's star: not an exoplanet, but may host exocomets or disrupted bodies; discovery by Planet Hunters from irregular 20% flux dips (Boyajian et al., 2016)⊳ NASA–IRTF consistent with giant comet (Lisse et al., 2015)⊳ infrared limits from Spitzer–IRAC (Marengo et al., 2015)⊳ search for optical flashes from VERITAS 2009–15 (Abeysekara et al., 2016)⊳ tidally-disrupted comet (Bodman & Quillen, 2016)⊳ accuracy of Harvard plates (Hippke et al., 2016)⊳ ATA radio flux limits at 1–10 GHz (Harp et al., 2016)⊳ constraints from Gaia distance (Hippke & Angerhausen, 2016)⊳ fading during Kepler mission (Montet & Simon, 2016)⊳ photometry/astrometry consistent with comet/planetoid swarm (Makarov & Goldin, 2016)⊳ century-long dimming from Harvard plates (Schaefer, 2016)⊳ limits on optical SETI pulses from Boquete Observatory (Schuetz et al., 2016)⊳ constraints on circumstellar dust from SCUBA–2 (Thompson et al., 2016)⊳ transit profile as artificial megastructures (Wright et al., 2016b)⊳ light curve explanations (Wright & Sigurdsson, 2016)⊳ constancy of plates from Sonneberg 1934–95 and Sternberg 1895–1995 (Hippke et al., 2017)⊳ explained by circumsolar rings (Katz, 2017)⊳ transit signature at 928-d period, with next event 2019 October 3–8 (Kiefer et al., 2017)⊳ review of known properties (Ksanfomality, 2017)⊳ criticism of cometary hypothesis (Ksanfomality & Tavrov, 2017)⊳ dimming due to planet inspiral (Metzger et al., 2017)⊳ explanation as four dust-enshrouded objects (Neslušan & Budaj, 2017)⊳ explanation as tilted exoring disturbed by close third companion (Sucerquia et al., 2017)⊳ explanation as ringed body with associated Trojans (Ballesteros et al., 2018)⊳ explanation as brown dwarf and associated ring system in 1601-d elliptical orbit (Bourne et al., 2018)⊳ first post-Kepler brightness dips (Boyajian et al., 2018)⊳ proper motion of faint nearby star excludes binary system (Clemens et al., 2018)⊳ Maria Mitchell Observatory photographic photometry 1922–1991 (Castelaz & Barker, 2018)⊳ non-grey dimming from GTC spectrophotometry (Deeg et al., 2018)⊳ ultraviolet variability from GALEX (Davenport et al., 2018)⊳ as a test of unsupervised machine learning for anomaly detection (Giles & Walkowicz, 2018)⊳ asymmetric or aperiodic year-long flux variations (Hippke & Angerhausen, 2018)⊳ 1574-d transit periodicity from archival photometry (Sacco et al., 2018)⊳ optical polarimetry in 2017 May–August (Steele et al., 2018)⊳ secular dimming from 800/4000-d monitoring from ASAS–SN/ASAS (Simon et al., 2018)⊳ families of solutions (Wright, 2018)⊳ explanation as circumstellar material in elliptical orbit (Wyatt et al., 2018)⊳

KIC–9663113 see Kepler–458

KIC–10001893 see Kepler–429

KIC–10525077 see Kepler–459

KIC–11084727 not a planet, and not in NASA; system with probable transiting exocomets (Rappaport et al., 2018)⊳

KOI

(identifiers used as default alias in NASA Exoplanet Archive)

KOI–12 see Kepler–448

KOI–13 see Kepler–13

KOI–55 see Kepler–70

KOI–94 see Kepler–89

KOI–142 see Kepler–88

KOI–217 see Kepler–71

KOI–351 see Kepler–90

KOI–1257 see Kepler–420

KOI–2700 not in NASA; candidate with dust on a 22-hr orbit (Rappaport et al., 2014)▷ dust composition of the dusty tail (van Lieshout et al., 2014)▷ planet with comet-like tail (Garai, 2018)▷

KOI–3680 see Kepler–1657

KOI–7892 see Kepler–457

K2

K2–1 see WASP–28

K2–2 HIP 116454 in NASA; first discovery by K2, with radial velocity confirmation by HARPS–N, and transit confirmation by MOST (Vanderburg et al., 2015)▷

K2–3 3-planet system; discovery of planets b–d (Crossfield et al., 2015)▷ measurement with HARPS (Almenara et al., 2015a)▷ confirmation from transits (Montet et al., 2015b)▷ Spitzer observations (Beichman et al., 2016)▷ radial velocity monitoring with HARPS, PFS, and TRES (Dai et al., 2016)▷ observations with Okayama 1.88-m and MuSCAT (Fukui et al., 2016a)▷ multi-planet analysis (Sinukoff et al., 2016)▷ variable incident flux due to obliquity and eccentricity (Kane & Torres, 2017)▷ three likely sub-Neptunes characterised with HARPS–N and HARPS (Damasso et al., 2018)▷

K2–4 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷

K2–5 2-planet system; discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ multi-planet analysis (Sinukoff et al., 2016)▷

K2–6 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷

K2–7 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷

K2–8 2-planet system; discovery of planet b (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ discovery of planet c (Sinukoff et al., 2016)▷

K2–9 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ spectra and adaptive optics imaging (Schlieder et al., 2016)▷

K2–10 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ radial velocity follow-up (Van Eylen et al., 2016b)▷

K2–11 ... K2–15 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷

K2–16 2-planet system; discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ multi-planet analysis (Sinukoff et al., 2016)▷

K2–17 discovery (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷

K2–18 2-planet system, planet c non-transiting; discovery of planet b (Montet et al., 2015b)▷ validation (Crossfield et al., 2016)▷ confirmation and habitable zone from Spitzer observations (Benneke et al., 2017)▷ radial velocity discovery of non-transiting planet c (Cloutier et al., 2017a)▷ follow-up observations with CARMENES (Sarkis et al., 2018b)▷

K2–19 3-planet system; discovery of planets b and c (Montet et al., 2015b)▷ independent discovery, proximity to 3:2 resonance, and simultaneous transits (Armstrong et al., 2015)▷ photo-dynamical mass determination (Barros et al., 2015)▷ high-dispersion spectroscopy, adaptive optics imaging, and transit timing variations (Narita et al., 2015)▷ validation (Crossfield et al., 2016)▷ radial velocity monitoring with HARPS, PFS, and TRES (Dai et al., 2016)▷ multi-planet analysis (Sinukoff et al., 2016)▷ masses of planets b and c from radial velocities and transit timing variations (Nespral et al., 2017)▷

K2–20 see HAT–P–56

K2–21 2-planet system; discovery (Petigura et al., 2015)▷ validation (Crossfield et al., 2016)▷

K2–22 short-period (P = 9.1 h) disintegrating rocky planet; discovery (Sanchis-Ojeda et al., 2015a)▷ validation (Crossfield et al., 2016)▷ inferring the composition of disintegrating planet interiors from dust tails with JWST (Bodman et al., 2018)▷ transit evolution from 45 ground-based photometric observations 2016 Dec–2017 May (Colón et al., 2018)▷

K2–23 see WASP–47

K2–24 2-planet system, both low-density sub-Saturn mass; discovery (Petigura et al., 2016)▷ validation (Crossfield et al., 2016)▷ radial velocity monitoring with HARPS, PFS, and TRES (Dai et al., 2016)▷ multi-planet analysis (Sinukoff et al., 2016)▷ insights on dynamics and formation of the near-resonant system from transit-timing variations and radial velocities (Petigura et al., 2018)▷

K2–25 first transiting plant in the Hyades cluster (Neptune-sized, transiting a M4.5 dwarf); discovery (Mann et al., 2016a)▷ validation (Crossfield et al., 2016)▷

K2–26 discovery (Schlieder et al., 2016)▷ Spitzer observations (Beichman et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–27 validation (Crossfield et al., 2016)▷ radial velocity follow-up (Van Eylen et al., 2016b)▷ sub-Saturnian mass diversity from Keck–HIRES (Petigura et al., 2017)▷ disentangling blended K2 photometry (Payne et al., 2018)▷

K2–28 discovery (Hirano et al., 2016a)▷ validation (Crossfield et al., 2016)▷ improved transit measurement from Spitzer (Chen et al., 2018a)▷ diffuser-assisted photometric observations (Stefansson et al., 2018)▷

K2–29 ≡ WASP–152; deep transit (20 mmag), detected by Super–WASP, then by K2; discovery by K2 (Johnson et al., 2016b)▷ discovery and Rossiter–McLaughlin effect from WASP (Santerne et al., 2016)▷

K2–30 discovery (Johnson et al., 2016b)▷ validation (Crossfield et al., 2016)▷ radial velocities from SOPHIE, HARPS–N and CAFE (Lillo-Box et al., 2016a)▷ independent discovery (Brahm et al., 2016a)▷

K2–31 first transiting hot Jupiter from K2, with grazing transit; joint discovery (as EPIC–204129699) and radial velocity monitoring with HARPS, PFS, and TRES (Dai et al., 2016)▷ joint discovery, radial velocity monitoring with FIES and HARPS, and grazing transit (Grziwa et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–32 3-planet system; discovery and radial velocity monitoring with HARPS, PFS, and TRES (Dai et al., 2016)▷ validation (Crossfield et al., 2016)▷ multi-planet analysis (Sinukoff et al., 2016)▷ sub-Saturnian mass diversity from Keck–HIRES (Petigura et al., 2017)▷

K2–33 in Upper Sco; discovery (David et al., 2016)▷ validation (Crossfield et al., 2016)▷ confirmation and characterisation from MEarth (Mann et al., 2016b)▷ limits on low-frequency radio emission (Lynch et al., 2017)▷

K2–34 discovery, Rossiter–McLaughlin effect, and faint companion candidate (Hirano et al., 2016b)▷ validation (Crossfield et al., 2016)▷ radial velocities from SOPHIE, HARPS–N and CAFE (Lillo-Box et al., 2016a)▷ independent discovery (Brahm et al., 2016a)▷ recovery from K2SC pipeline processing (Pope et al., 2016)▷

K2–35 2-planet system; discovery (Sinukoff et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–36 2-planet system; discovery (Sinukoff et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–37 3-planet system discovery (Sinukoff et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–38 2-planet system discovery (Sinukoff et al., 2016)▷ validation (Crossfield et al., 2016)▷

K2–39 discovery (Van Eylen et al., 2016a)▷ validation (Crossfield et al., 2016)▷ sub-Saturnian mass diversity from Keck–HIRES (Petigura et al., 2017)▷

K2–40 see WASP–75

K2–41 see WASP–157

K2–42 validation (Crossfield et al., 2016)▷

K2–43 validation (Crossfield et al., 2016)▷

K2–44 validation (Crossfield et al., 2016)▷ radial velocity follow-up (Van Eylen et al., 2016b)▷

K2–45 ... K2–54 discovery (Crossfield et al., 2016)▷ Amongst these:
K2–51: re-classified as low-mass (binary) star (Shporer et al., 2017b)▷

K2–55 warm Neptune; discovery (Crossfield et al., 2016)▷ high mass and low envelope fraction (Dressing et al., 2018)▷

K2–56 BD+20 594 in NASA; discovery (Espinoza et al., 2016b)▷

K2–57 discovery (Crossfield et al., 2016)▷

K2–58 3-planet system; discovery (Crossfield et al., 2016)▷

K2–59 2-planet system; discovery (Crossfield et al., 2016)▷

K2–60 discovery (Crossfield et al., 2016)▷ independent discovery (Eigmüller et al., 2017)▷

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K2–61 . . . K2–92 1-, 2-, 3-, and 4-planet systems (Crossfield et al., 2016)⊳ Amongst these:
K2–66: mass and density measurements (Sinukoff et al., 2017a)⊳
K2–67: re-classified as low-mass (binary) star (Shporer et al., 2017b)⊳
K2–76: re-classified as low-mass (binary) star (Shporer et al., 2017b)⊳
K2–77: in the Pleiades (Campaign 4) field, but not considered a cluster member (Gaidos et al., 2017a)⊳
K2–78: re-classified as eclipsing binary (Cabrera et al., 2017)⊳
K2–80: 3-planet system confirmation (Mayo et al., 2018)⊳
K2–82: re-classified as eclipsing binary (Cabrera et al., 2017)⊳
K2–92: re-classified as eclipsing binary (Cabrera et al., 2017)⊳

K2–93 HIP 41378 in NASA; 5-planet system; discovery (Vanderburg et al., 2016a)⊳

K2–94 see WASP–85A

K2–95 in Praesepe; M-dwarf (JS 183) with Neptune-sized planet; discovery (Obermeier et al., 2016)⊳ stellar parameters and cluster membership (Mann et al., 2017b)⊳ independent discovery (Pepper et al., 2017a)⊳

K2–96 HD 3167 in NASA; 3-planet system, planet d non-transiting; discovery of 2 super-Earths (Vanderburg et al., 2016b)⊳ planet d from radial velocity, and planet masses (Christiansen et al., 2017)⊳ radial velocities with NOT–FIES (Gandolfi et al., 2017)⊳

K2–97 discovery around a red giant (Grunblatt et al., 2016)⊳ revise mass (Grunblatt et al., 2017)⊳

K2–98 discovery (Barragán et al., 2016)⊳

K2–99 discovery (Smith et al., 2017)⊳

K2–100 in Praesepe; discovery, stellar parameters and cluster membership (Mann et al., 2017b)⊳ diffuser-assisted photometric observations (Stefansson et al., 2018)⊳

K2–101 in Praesepe; discovery, stellar parameters and cluster membership (Mann et al., 2017b)⊳

K2–102 in Praesepe; discovery, stellar parameters and cluster membership (Mann et al., 2017b)⊳

K2–103 EPIC–211822797 in NASA; in Praesepe; discovery, stellar parameters and cluster membership (Mann et al., 2017b)⊳

K2–104 in Praesepe; discovery, stellar parameters and cluster membership (Mann et al., 2017b)⊳

K2–105 discovery (Narita et al., 2017)⊳

K2–106 EPIC–220674823 in NASA; 2-planet system, periods 0.57 d and 13.3 d; discovery (Adams et al., 2017)⊳ mass and density measurements (Guenther et al., 2017)⊳ mass and density measurements (Sinukoff et al., 2017a)⊳

K2–107 discovery (Eigmüller et al., 2017)⊳

K2–108 discovery, and sub-Saturnian mass diversity from Keck–HIRES (Petigura et al., 2017)⊳

K2–109 HD 106315 in NASA; 2-planet system; discovery (Crossfield et al., 2017)⊳ independent discovery (Rodriguez et al., 2017)⊳ ground-based photometry of planet c with 1.2-m Euler telescope (Lendl et al., 2017b)⊳ improved masses from HARPS radial velocity observations (Barros et al., 2017)⊳ constraints on outer planets on inclined orbits (Read et al., 2017)⊳ both ‘warm Neptunes’ have low stellar obliquities (Zhou et al., 2018)⊳

K2–110 discovery (Osborn et al., 2017)⊳

K2–111 discovery (Fridlund et al., 2017)⊳

K2–112 see TRAPPIST–1

K2–113 discovery (Espinoza et al., 2017)⊳

K2–114 discovery (Shporer et al., 2017a)⊳

K2–115 discovery (Shporer et al., 2017a)⊳

K2–116 discovery (Dressing et al., 2017)⊳

K2–117 2-planet system; discovery (Dressing et al., 2017)⊳ follow-up observations (Hirano et al., 2018a)⊳

K2–118 . . . K2–130 1-planet systems; discovery (Dressing et al., 2017)⊳ Amongst these:
K2–122: follow-up observations (Hirano et al., 2018a)⊳
K2–123: follow-up observations (Hirano et al., 2018a)⊳

K2–131 discovery (Dai et al., 2017a)⊳

K2–132 discovery (Grunblatt et al., 2017)⊳ independent discovery (Jones et al., 2018)⊳

K2–133 3-planet system around the M dwarf LP 358–499; discovery (Wells et al., 2018)⊳

K2–134 see WASP–151

K2–135 GJ 9827 in NASA; 3-planet super-Earth system close to a 1:3:5 mean motion resonance (Niraula et al., 2017)⊳ mass determination (Prieto-Arranz et al., 2018)⊳ independent discovery (Rodriguez et al., 2018b)⊳ Magellan–PFS radial velocities (Teske et al., 2018)⊳

K2–136 3-planet circumprimary system (Earth, mini-Neptune and super-Earth) orbiting a Hyades cluster K dwarf; first multiple transiting planets in a cluster; discovery (Mann et al., 2018)⊳ independent discovery of planet c (Ciardi et al., 2018)⊳ independent discovery (Livingston et al., 2018c)⊳

K2–137 ultra-short period (4.3-h) planet around an M dwarf; discovery (Smith et al., 2018)⊳

K2–138 5-planet system of sub-Neptune mass, discovered by Citizen Scientists, in an unbroken chain of near 3:2 resonances; discovery (Christiansen et al., 2018)⊳

K2–139 discovery (Barragán et al., 2018b)⊳

K2–140* discovery (Giles et al., 2018)⊳ ephemeris refinement (Močnik et al., 2018a)⊳

K2–141* 2-planet system; discovery (Malavolta et al., 2018)⊳ independent discovery (Barragán et al., 2018a)⊳

K2–146* . . . K2–154* 1-, 2-, and 3-planet systems; (Hirano et al., 2018a)⊳

K2–155* discovery (Hirano et al., 2018b)⊳

K2–156* . . . K2–230* 1-, 2-, 3-, and 4-planet systems; (Mayo et al., 2018)⊳ Amongst these:
K2–158: discovery of planet c (Livingston et al., 2018d)⊳
K2–216: confirmation and follow-up (Persson et al., 2018)⊳
K2–224: discovery of planet c (Livingston et al., 2018d)⊳

K2–231* sub-Neptune transiting a solar twin in the cluster Ruprecht 147; discovery (Curtis et al., 2018)⊳

K2–232* discovery (Brahm et al., 2018a)⊳

K2–233* 3-planet system; discovery (David et al., 2018a)⊳

K2–234* HD 89345 in NASA; discovery(Van Eylen et al., 2018)⊳

K2–235 see WASP–107

K2–236* EPIC 211945201 in NASA; discovery (Chakraborty et al., 2018)⊳

K2–237* discovery (Soto et al., 2018)⊳

K2–238* discovery (Soto et al., 2018)⊳

K2–239* 3-planet system; discovery (Díez Alonso et al., 2018)⊳

K2–240* 2-planet system; discovery (Díez Alonso et al., 2018)⊳

K2–241* . . . K2–259* 1- and 2-planet systems; discovery (Livingston et al., 2018d)⊳

K2–260* discovery (Johnson et al., 2018a)⊳

K2–261* discovery (Johnson et al., 2018a)⊳

K2–262 in preparation

K2–263* 50-d orbital period; discovery (Mortier et al., 2018)⊳

K2–264* 2-planet system in Praesepe; second known system of multiple planets transiting a cluster star; discovery (Rizzuto et al., 2018)⊳ independent discovery (Livingston et al., 2018b)⊳

K2–265* discovery (Lam et al., 2018)⊳ binary star companion resolved by VLT–SPHERE (Ligi et al., 2018)⊳

K2–266* compact 4-planet system with a significantly misaligned ultra-short period planet; discovery (Rodriguez et al., 2018a)⊳

K2–267* EPIC 246851721 in NASA; discovery (Yu et al., 2018)⊳

K2–268* . . . K2–283* 1- and 2-planet systems; discovery (Livingston et al., 2018a)⊳

K2–284* discovery (David et al., 2018b)⊳

K2–285* 4-planet system; discovery (Palle et al., 2018)⊳

KPS (Kourovka Planet Search)

KPS–1* discovery (Burdanov et al., 2018)⊳

LHS

LHS 1140 2-planet system; discovery of planet b (Dittmann et al., 2017b)⊳ discovery of planet c ()⊳00485M

Lupus

Lupus–TR–3 discovery (Weldrake et al., 2008)⊳

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MASCARA

MASCARA–1 first discovery with MASCARA north (La Palma); hot Jupiter orbiting a V = 8.3 mag A star; discovery and Rossiter–McLaughlin effect (Talens et al., 2017)⊳

MASCARA–2 see KELT–20

NGTS

NGTS–1 short-period high-mass planet (P = 2.674-d, $M_p = 0.8 M_J$) with deep (2.5%) grazing transits around an M-dwarf; discovery (Bayliss et al., 2018a)⊳ exoplanet-induced radio emission (Turnpenney et al., 2018)⊳

NGTS–2* discovery (Raynard et al., 2018)⊳

NGTS–3A* hot Jupiter in an unresolved binary system; discovery (Günther et al., 2018)⊳

OGLE

OGLE–TR–10 identification from spectroscopy (Dreizler et al., 2002)⊳ confirmation from radial velocity (Konacki et al., 2005)⊳ stellar age from Li, Ca II, and rotation (Melo et al., 2006)⊳ stellar parameters from spectroscopy (Santos et al., 2006a)⊳ stellar parameters (Santos et al., 2006b)⊳ additional transits and improved system parameters (Holman et al., 2007a)⊳ planet radius from photometry (Pont et al., 2007b)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ flare during transit, inferred high X-ray luminosity (Bentley et al., 2009)⊳ light curve properties (Southworth, 2009)⊳ light curve properties (Southworth, 2010)⊳

OGLE–TR–56 near-grazing transit; discovery and radial velocity (Konacki et al., 2003)⊳ tidal dissipation, planet migration, atmospheric stability (Sasselov, 2003)⊳ theoretical planet radius (Burrows et al., 2004)⊳ tidal locking and magnetosphere/atmosphere evolution (Grießmeier et al., 2004)⊳ tidal dissipation and inspiraling (Pätzold et al., 2004)⊳ radial velocities and OGLE photometry (Torres et al., 2004)⊳ exclusion of blending (Torres et al., 2005)⊳ photometry and radial velocity Wilson–Devinney fitting (Vaccaro & Van Hamme, 2005)⊳ stellar age from Li, Ca II, and rotation (Melo et al., 2006)⊳ stellar parameters from spectroscopy (Santos et al., 2006a)⊳ stellar parameters (Santos et al., 2006b)⊳ tidal dissipation and stellar spin-up (Carone & Pätzold, 2007)⊳ mass loss by hydrodynamic escape (Erkaev et al., 2007)⊳ radius from photometry (Pont et al., 2007b)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ apsidal precession due to planet tidal bulge (Ragozzine & Wolf, 2009)⊳ light curve properties (Southworth, 2009)⊳ secondary eclipse from ground photometry (Sing & López-Morales, 2009)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ 19 transits between 2003–09 (Adams et al., 2011a)⊳ transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ photometry and spectroscopy (Southworth, 2012)⊳

OGLE–TR–111 discovery, radial velocity (Pont et al., 2004)⊳ stellar age from Li, Ca II, and rotation (Melo et al., 2006)⊳ stellar parameters from spectroscopy (Santos et al., 2006a)⊳ stellar parameters (Santos et al., 2006b)⊳ ground photometry (Minniti et al., 2007)⊳ two additional transits (Winn et al., 2007b)⊳ transit time variations (Díaz et al., 2008)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ light curve properties (Southworth, 2009)⊳ transit time variations questioned (Adams et al., 2010a)⊳ light curve properties (Southworth, 2010)⊳ five new transits from ESO–FORS, dynamical modeling (Hoyer et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2012)⊳

OGLE–TR–113 discovery, radial velocity (Bouchy et al., 2004)⊳ independent confirmation from radial velocity (Konacki et al., 2004)⊳ tidal dissipation (Pätzold et al., 2004)⊳ transit light curves (Gillon et al., 2006)⊳ stellar age from Li, Ca II, and rotation (Melo et al., 2006)⊳ stellar parameters from spectroscopy (Santos et al., 2006a)⊳ stellar parameters (Santos et al., 2006b)⊳ additional transits and improved parameters (Díaz et al., 2007)⊳ infrared transits and possible secondary eclipse from NTT–SOFI (Snellen & Covino, 2007)⊳ additional transits 2007–09 and limits on transit time variations (Adams et al., 2010b)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ transits negate rapid orbital decay (Hoyer et al., 2016a)⊳ dynamical tides excited by gravity waves in host star affecting planet's orbital evolution (Chernov et al., 2017)⊳

OGLE–TR–132 discovery, radial velocity (Bouchy et al., 2004)⊳ improved photometry and system parameters (Moutou et al., 2004)⊳ tidal dissipation (Pätzold et al., 2004)⊳ stellar abundances from spectroscopy (Santos et al., 2006a)⊳ improved photometry (Gillon et al., 2007c)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ light curve properties (Southworth, 2009)⊳ light curve properties (Southworth, 2010)⊳ seven new transits, limits on transit time variations (Adams et al., 2011b)⊳ photometry and new spectroscopy (Southworth, 2012)⊳

OGLE–TR–182 discovery, radial velocity (Pont et al., 2008b)⊳ homogeneous analysis and light curve (Southworth, 2010)⊳

OGLE–TR–211 discovery, radial velocity (Udalski et al., 2008)⊳ homogeneous analysis and light curve (Southworth, 2010)⊳

OGLE2–TR–L9 discovery, radial velocity (Snellen et al., 2009b)⊳ 5 transits and possible transit time variations (Lendl et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ photometry and spectroscopy (Southworth, 2012)⊳

PH (Planet Hunters)

PH–1 see Kepler–64

PH–2 see Kepler–86

POTS

POTS–1 discovery from Pre-OmegaCam Transit Survey (Koppenhoefer et al., 2013)⊳

PTFO

PTFO 8–8695 ≡ CVSO 30; planet(s) are not confirmed, and not in NASA archive; claimed orbital periods are 0.45 d and 27 000 yr, suggestive of formation by planet–planet scattering; transit profiles are of unusual shape, and variable; young hot Jupiter candidate, $M_p \sim 3M_J$, P = 0.45 d, around a T Tauri star; discovery (van Eyken et al., 2012)⊳ spin–orbit misalignment and nodal precession (Barnes et al., 2013a)⊳ planet not confirmed (Ciardi et al., 2015)⊳ precession period of 199 d from photometry for a non-spin–orbit synchronous orbit (Kamiaka et al., 2015)⊳ photometric variability described by rotating star spots (Koen, 2015)⊳ tests of planetary hypothesis (Yu et al., 2015)⊳ reappraisal of planet parameters (Howarth, 2016)⊳ variable Hα emission favours planet interpretation (Johns-Krull et al., 2016b)⊳ 33 fading events from 144 nights observations over three years (Raetz et al., 2016)⊳ imaging discovery of second planet candidate at 1.85 arcsec or 660 au (Schmidt et al., 2016)⊳ Roche lobe overflow model and mass-loss for short-period gaseous planets (Jackson et al., 2017)⊳ 3-colour photometry favours circumstellar dust clump or occultation of accretion hotspot (Onitsuka et al., 2017)⊳ evidence that planet c is a background star (Lee & Chiang, 2018)⊳

Qatar

Qatar–1 discovery, radial velocity (Alsubai et al., 2011)⊳ Rossiter–McLaughlin effect, revised system parameters (Covino et al., 2013)⊳ transit time variations from OLT and PTST (von Essen et al., 2013)⊳ chromospheric activity (Kuznyetsova et al., 2014)⊳ secondary eclipse with CFHT–WIRCam and limits on ground-based systematics (Croll et al., 2015a)⊳ no variation in transit times (Maciejewski et al., 2015)⊳ high-precision multicolour time series photometry (Mislis et al., 2015)⊳ secondary eclipse in the Ks band with Calar Alto–OMEGA2000 (Cruz et al., 2016)⊳ limits on transit timing variations (Collins et al., 2017)⊳ photometry and transit times (Püsküllü et al., 2017)⊳ ground-based transmission spectrum with GEMINI-N–GMOS (von Essen et al., 2017)⊳ Spitzer secondary eclipses (Garhart et al., 2018)⊳ transit observations (Thakur et al., 2018)⊳

Qatar–2 discovery, radial velocity, evidence of second planet in outer orbit (Bryan et al., 2012)⊳ 17 light curves of five transits with obliquity from star spots (Mancini et al., 2014c)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ recovery from K2SC pipeline processing (Pope et al., 2016)⊳ orbital obliquity, planet mass, and very low albedo from K2 photometry (Dai et al., 2017b)⊳ Rossiter–McLaughlin effect and orbital obliquity from HARPS–N (Esposito et al., 2017)⊳ recurring sets of recurring star spot occultations (Močnik et al., 2017c)⊳

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Qatar–3 discovery, radial velocity (Alsubai et al., 2017)▷

Qatar–4 discovery, radial velocity (Alsubai et al., 2017)▷

Qatar–5 discovery, radial velocity (Alsubai et al., 2017)▷

Qatar–6 not in NASA; grazing transit orbiting a bright $V = 11.4$ K dwarf with $P = 3.5$ d; discovery (Alsubai et al., 2018)▷

SWEEPS

SWEEPS–4 identification and confirmation from radial velocity (Sahu et al., 2006)▷

SWEEPS–11 identification and confirmation from radial velocity (Sahu et al., 2006)▷ tidal effects on radial velocity (Arras et al., 2012)▷

TESS

TESS–1 see HD 39091

TRAPPIST

TRAPPIST–1 ≡ K2–112; 7-planet system around an ultracool ($T <$ 2700 K, M8) dwarf star at 12 pc, all of terrestrial mass, orbiting within the (habitable zone) orbital radius of Mercury, and with three-body resonances linking each planet; discovery of 3-planet system with TRAPPIST (Gillon et al., 2016)▷ prospects for detection of O_3 with JWST (Barstow & Irwin, 2016)▷ prospects for detection of Rossiter–McLaughlin effect (Cloutier & Triaud, 2016)▷ combined HST transmission of planets b and c excludes cloud-free H_2-atmosphere (de Wit et al., 2016b)▷ recovery prospects with K2 (Demory et al., 2016b)▷ speckle imaging excludes low-mass companions (Howell et al., 2016)▷ **2017:** climate–vegetation energy-balance habitability model (Alberti et al., 2017)▷ updated astrometry and photometric variability over 12 years (Bartlett et al., 2017)▷ H_2O loss during the hot early phase of stellar cooling (Bolmont et al., 2017)▷ trigonometric distance and mass constraints (Boss et al., 2017)▷ H_2O loss during the hot early phase of stellar cooling (Bourrier et al., 2017b)▷ system Ly-α emission from HST–STIS (Bourrier et al., 2017e)▷ biased transit depths from overlapping stellar and planetary lines (Deming & Sheppard, 2017)▷ stellar wind, and magnetic and plasma environment (Garraffo et al., 2017)▷ discovery of four further planets with TRAPPIST (Gillon et al., 2017b)▷ probable absence of exomoons (Kane, 2017)▷ litho-panspermia $10^4 - 10^5$ faster than solar system (Krijt et al., 2017)▷ litho-panspermia propagation and observational metrics (Lingam & Loeb, 2017a)▷ reduced diversity of life around M dwarfs from atmospheric erosion (Lingam & Loeb, 2017b)▷ K2 observations constrain orbit for planet h, and confirm 7-planet resonant chain (Luger et al., 2017c)▷ planet–planet occultations outside of transit observable with JWST (Luger et al., 2017a)▷ suitability for JWST (Morley et al., 2017b)▷ ultraviolet surface environment models and habitability (O'Malley-James & Kaltenegger, 2017)▷ formation through pebble-accretion at the H_2O-ice line (Ormel et al., 2017)▷ Earth-like compositions confirmed from N-body simulations (Quarles et al., 2017)▷ stellar activity and likely ultraviolet atmospheric erosion (Roettenbacher & Kane, 2017)▷ system longevity as a result of convergent migration (Tamayo et al., 2017)▷ eclipse, transit and occultation geometry at exo-syzygy (Veras & Breedt, 2017)▷ stellar flaring from K2 observations and implications for habitability (Vida et al., 2017)▷ XMM–Newton X-ray observations and high L_X/L_{bol} (Wheatley et al., 2017)▷ habitability from 3d climate models (Wolf, 2017)▷ as an example of anti-correlation between multiplicity and eccentricity (Zinzi & Turrini, 2017)▷ **2018:** interior structures and tidal heating (Barr et al., 2018)▷ the truncated circumstellar disk of V410 X-ray 1 as a precursor (Boneberg et al., 2018)▷ stratospheric circulation and O_3 production in tidally locked planets (Carone et al., 2018)▷ energy dissipation in the upper planetary atmospheres (Cohen et al., 2018)▷ refined transit parameters from Spitzer–IRAC and limits on stellar variability (Delrez et al., 2018a)▷ hydrodynamical modeling of Laplace resonance formation (Dempsey & Nelson, 2018)▷ atmospheric reconnaissance of the habitable zone planet (de Wit et al., 2018)▷ activity of the host star (Dmitrienko & Savanov, 2018)▷ atmospheric escape and habitability (Dong et al., 2018)▷ interior characterisation in multi-planetary systems (Dorn et al., 2018b)▷ 0.8–4.5 μm broadband transmission spectra (Ducrot et al., 2018)▷ dimensionality and integrals of motion show that the system is atypical but stable (Floß et al., 2018)▷ planet masses and densities from transit timing variations (Grimm et al., 2018)▷ mass constraints on precursor disks (Haworth et al., 2018)▷ dynamical constraints on non-transiting planets (Jontof-Hutter et al., 2018)▷ detectability of oceans from polarisation modeling (Kopparla et al., 2018)▷ effect of cometary impactors on planetary atmospheres (Kral et al., 2018)▷ detectability of biosignatures in anoxic atmospheres with JWST (Krissansen-Totton et al., 2018)▷ evolved climates and observational discriminants (Lincowski et al., 2018)▷ resonant chains via long-scale migration, short-scale migration, and/or eccentricity damping (MacDonald & Dawson, 2018)▷ spin–orbital tidal dynamics and tidal heating (Makarov et al., 2018)▷ limits on clouds and hazes (Moran et al., 2018)▷ possible bright star spots (Morris et al., 2018a)▷ photometric analysis and transit times of planets b and c (Morris et al., 2018b)▷ non-detection of contamination by stellar activity with Spitzer (Morris et al., 2018c)▷ consequences for radius inflation and planetary habitability of magnetic fields on the flare star (Mullan et al., 2018)▷ orbital evolution, tidal dissipation, formation and habitability (Papaloizou et al., 2018)▷ deep radio limit at 4–8 GHz with VLA (Pineda & Hallinan, 2018)▷ polarisation due to planetary transits (Sengupta, 2018)▷ climate diversity, tidal dynamics and the fate of volatiles (Turbet et al., 2018)▷ exoplanet-induced radio emission (Turnpenney et al., 2018)▷ inward planetary migration inferred from H_2O-rich compositions (Unterborn et al., 2018)▷ stellar parameters (Van Grootel et al., 2018)▷ near-infrared transmission spectra and stellar contamination (Zhang et al., 2018b)▷

TrES

TrES–1 discovery, radial velocity (Alonso et al., 2004)▷ spectroscopic determination of stellar parameters, chemical abundances, age (Sozzetti et al., 2004)▷ secondary eclipses and atmospheric modeling from Spitzer (Burrows et al., 2005)▷ detection of thermal emission with Spitzer (Charbonneau et al., 2005)▷ secondary eclipses and atmospheric modeling from Spitzer (Fortney et al., 2005)▷ humps in AAVSO egress (Price et al., 2005)▷ limits on transit time variations (Steffen & Agol, 2005)▷ stellar age from Li, Ca II, and rotation (Melo et al., 2006)▷ stellar parameters and abundances from spectroscopy (Santos et al., 2006a)▷ stellar parameters (Santos et al., 2006b)▷ stellar parameters (Sozzetti et al., 2006b)▷ mass loss through hydrodynamic escape (Erkaev et al., 2007)▷ limits on secondary eclipse from ground (Knutson et al., 2007b)▷ Rossiter–McLaughlin effect (Narita et al., 2007)▷ improved photometry and absence of star spots (Winn et al., 2007d)▷ homogeneous analysis and light curve properties (Southworth, 2008)▷ possible star spots (Dittmann et al., 2009b)▷ star spots or second transiting planet from HST photometry (Rabus et al., 2009a)▷ limits on transit time variations (Rabus et al., 2009b)▷ additional transits (Raetz et al., 2009b)▷ light curve properties (Southworth, 2009)▷ homogeneous analysis and light curve properties (Southworth, 2010)▷ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)▷ stellar companion from lucky imaging (Faedi et al., 2013b)▷ reanalysis of Spitzer transits and eclipses (Cubillos et al., 2014)▷ compilation of light curves and transit timing (Baluev et al., 2015)▷

TrES–2 ≡ Kepler–1; discovered in pre-operational Kepler field; near-grazing transit, very low albedo; discovery, radial velocity (O'Donovan et al., 2006)▷ additional transits and improved system parameters (Holman et al., 2007b)▷ additional transits and improved system parameters (Sozzetti et al., 2007)▷ homogeneous analysis and light curve properties (Southworth, 2008)▷ Rossiter–McLaughlin effect (Winn et al., 2008e)▷ stellar binary (Daemgen et al., 2009)▷ orbit stability (Freistetter et al., 2009)▷ change in transit duration due to change in orbit inclination (Mislis & Schmitt, 2009)▷ limits on transit time variations (Rabus et al., 2009b)▷ additional transits (Raetz et al., 2009a)▷ light curve properties (Southworth, 2009)▷ transit observations with GTC (Colón et al., 2010)▷ secondary eclipse from CFHT (Croll et al., 2010a)▷ effects of data binning (Kipping, 2010)▷ additional transits (Mislis et al., 2010)▷ thermal inversion and molecular abundances (Madhusudhan & Seager, 2010)▷ secondary eclipses from Spitzer (O'Donovan et al., 2010)▷ limits on changes in orbit inclination (Scuderi et al., 2010)▷ atmospheric models from Spitzer and Kepler (Spiegel & Burrows, 2010)▷ homogeneous analysis and light curve properties (Southworth, 2010)▷ search for additional planets from EPOXI (Ballard et al., 2011a)▷ possible star spots from EPOXI (Christiansen et al., 2011)▷ 18 transits from Kepler, system parameters, limits on albedo (Kipping & Bakos, 2011b)▷ limits on transit time variations and albedo (Kipping & Spiegel, 2011)▷ photometry and new spectroscopy (Southworth, 2011)▷ 2.7-

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yr of Kepler data, asteroseismology, ellipsoidal variations, Doppler beaming, albedo, secondary eclipse, and atmospheric constraints (Barclay et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ possible change in orbit inclination (Schröter et al., 2012)⊳ modeling from 15 quarters of Kepler (Esteves et al., 2013)⊳ confirmed stellar companion from lucky imaging (Faedi et al., 2013b)⊳ atmospheric disequilibrium diagnostics (Line & Yung, 2013)⊳ atmospheric disequilibrium diagnostics (Line et al., 2014)⊳ transit times from 490 transits (Raetz et al., 2014)⊳ atmospheric characterisation with HST–WFC3 (Ranjan et al., 2014)⊳ Kepler secondary eclipse and phase curves (Angerhausen et al., 2015a)⊳ Kepler phase curve with beaming and ellipsoidal variations (Esteves et al., 2015)⊳ Kepler phase curves with beaming, ellipsoidal, and reflection phase modulation (Faigler & Mazeh, 2015)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ photometric analysis of all Kepler data (Budding et al., 2016b)⊳ use as a precision clock to constrain time variation of the gravitational constant (Masuda & Suto, 2016)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ heat recirculation and albedo from comparison of optical phase curve and secondary eclipse (von Paris et al., 2016b)⊳ simple transit model (Ji et al., 2017)⊳ climate models (Wang & Cuntz, 2017)⊳

TrES–3 discovery, radial velocity confirmation (O'Donovan et al., 2007)⊳ limits on secondary eclipse (Winn et al., 2008c)⊳ secondary eclipse from WHT/UKIRT (de Mooij & Snellen, 2009)⊳ 9 transits from RISE, limits on transit time variations (Gibson et al., 2009)⊳ apsidal precession due to planetary tidal bulge (Ragozzine & Wolf, 2009)⊳ photometry, spectroscopy, and revised system parameters (Sozzetti et al., 2009)⊳ transit observations with GTC (Colón et al., 2010)⊳ secondary eclipse in Ks from CFHT (Croll et al., 2010b)⊳ broadband infrared emission spectrum (Fressin et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ search for additional planets from EPOXI (Ballard et al., 2011a)⊳ 7 transits from EPOXI, possible star spots (Christiansen et al., 2011)⊳ polarisation studies (Kostogryz et al., 2011)⊳ ephemeris from 109 transits, possible star spots (Lee et al., 2011c)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ prospects for detecting bow shocks (Vidotto et al., 2011)⊳ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ possible transit time variations from 23 light curves (Jiang et al., 2013)⊳ transits from Apache Point–APOSTLE (Kundurthy et al., 2013b)⊳ atmospheric disequilibrium diagnostics (Line & Yung, 2013)⊳ transit times from 2009–2013 consistent with linear ephemeris (Maciejewski et al., 2013c)⊳ constraints on magnetic field from near ultraviolet transits (Turner et al., 2013)⊳ no transit time variations (Vaňko et al., 2013)⊳ atmospheric disequilibrium diagnostics (Line et al., 2014)⊳ atmospheric characterisation with HST–WFC3 (Ranjan et al., 2014)⊳ Rayleigh scattering from GTC–OSIRIS (Parviainen et al., 2016)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳ improved spectroscopy favours a flat spectrum (Mackebrandt et al., 2017)⊳ photometry and transit times (Püsküllü et al., 2017)⊳ linear ephemeris over 9 yr (Ricci et al., 2017a)⊳ improved ground-based transit photometry using beam-shaping diffusers (Stefansson et al., 2017)⊳ photometric follow-up and transit timing analysis with the Xuyi Near-Earth Object Survey Telescope (Zhao et al., 2018b)⊳ photometry and transit timing variations (Sun et al., 2018)⊳

TrES–4 hot Jupiter with large radius ($1.8R_J$); discovery, radial velocity (Mandushev et al., 2007)⊳ modeling of radius (Liu et al., 2008a)⊳ stellar binary (Daemgen et al., 2009)⊳ secondary eclipses and atmospheric temperature inversion from Spitzer (Knutson et al., 2009a)⊳ stellar proper motion and transit timing (Rafikov, 2009)⊳ photometry, spectroscopy, and revised system parameters (Sozzetti et al., 2009)⊳ inflation through Ohmic dissipation (Batygin & Stevenson, 2010)⊳ tidal heating (Ibgui et al., 2010)⊳ thermal inversion and molecular abundances (Madhusudhan & Seager, 2010)⊳ Rossiter–McLaughlin effect and additional radial velocity variability (Narita et al., 2010c)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ transits and improved ephemeris (Chan et al., 2011)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ coupled radius–orbit evolutionary models (Ibgui et al., 2011)⊳ new transits confirming large radius (Chan et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ lucky imaging confirmation of common proper motion companion (Bergfors et al., 2013)⊳ confirmed stellar companion from lucky imaging (Faedi et al., 2013b)⊳ atmospheric characterisation with HST–WFC3 (Ranjan et al., 2014)⊳ significantly lower mass from HARPS–N, and very low density (Sozzetti et al., 2015)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)⊳

TrES–5 discovery, radial velocity (Mandushev et al., 2011)⊳ high-precision multicolour time series photometry (Mislis et al., 2015)⊳ photometry with a DSLR camera (Miller, 2015)⊳ additional transit observations (Maciejewski et al., 2016b)⊳ transit timing analysis and possible existence of planet c (Sokov et al., 2018)⊳

WASP

1SWASP J1407 (1SWASP J140747.93–394542.6); not in NASA; although not attributed directly to a planet, the star shows long, deep, eclipses, modeled as a system of circumstellar or circumplanetary disks; discovery of the transiting ring system (Mamajek et al., 2012)⊳ eclipse fine-structure and hints of exomoons (van Werkhoven et al., 2014b)⊳ ring possibly sculpting by exomoons (Kenworthy & Mamajek, 2015)⊳ mass and period limits on the ringed companion (Kenworthy et al., 2015)⊳ constraints on size/dynamics (Rieder & Kenworthy, 2016)⊳ anomalous light curves of young tilted exorings (Sucerquia et al., 2017)⊳ constraints on disks/rings (Zanazzi & Lai, 2017)⊳ photographic plate constraints on the period of the ringed secondary companion (Mentel et al., 2018)⊳

WASP–1 discovery, radial velocity (Collier Cameron et al., 2007)⊳ photometry and planet radius (Charbonneau et al., 2007)⊳ two transits (Shporer et al., 2007)⊳ stellar spectroscopy, Li abundance, age (Stempels et al., 2007)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ light curve properties (Southworth, 2009)⊳ light curve properties (Southworth, 2010)⊳ limits on Rossiter–McLaughlin effect from Magellan, Subaru, Keck (Albrecht et al., 2011)⊳ mass loss rate from extreme ultraviolet and X-ray radiation (Ehrenreich & Désert, 2011)⊳ Rossiter–McLaughlin effect from OHP–SOPHIE (Simpson et al., 2011c)⊳ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ new transits from Asiago–TASTE, linear ephemeris (Granata et al., 2014)⊳ 13 new transits, revised parameters, linear ephemeris (Maciejewski et al., 2014b)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳

WASP–2 discovery, radial velocity (Collier Cameron et al., 2007)⊳ improved photometry and planet radius (Charbonneau et al., 2007)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ stellar binary (Daemgen et al., 2009)⊳ stellar proper motion and transit timing (Rafikov, 2009)⊳ light curve properties (Southworth, 2009)⊳ three transits and atmospheric modeling (Southworth et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ Rossiter–McLaughlin effect from ESO–HARPS and CORALIE (Triaud et al., 2010)⊳ limits on Rossiter–McLaughlin effect from Magellan, Subaru, Keck (Albrecht et al., 2011)⊳ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ lucky imaging confirmation of stellar companion (Bergfors et al., 2013)⊳ transits from Apache Point–APOSTLE and limits on transit time variations (Becker et al., 2013)⊳ compilation of light curves and transit timing (Baluev et al., 2015)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ photometry and atmospheric models (Turner et al., 2017)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

WASP–3 discovery, radial velocity (Pollacco et al., 2008)⊳ 9 transits from RISE and improved ephemeris (Gibson et al., 2008)⊳ line-profile tomography (Miller et al., 2010)⊳ sinusoidal transit time variations (Maciejewski et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ Rossiter–McLaughlin effect (Simpson et al., 2010)⊳ Rossiter–McLaughlin effect (Tripathi et al., 2010)⊳ search for additional planets from EPOXI (Ballard et al., 2011a)⊳ 8 transits from EPOXI and limits on secondary eclipse (Christiansen et al., 2011)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ sinusoidal transit time variations (Littlefield, 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ tidal effects on radial velocity (Arras et al.,

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2012)⊳ possible transit duration variations (Eibe et al., 2012)⊳ new transits and limits on transit time variations (Montalto et al., 2012)⊳ secondary eclipse in Ks from Palomar–WIRC (Zhao et al., 2012a)⊳ 17 radial velocity measurements and 32 transit light curves confirm linear ephemeris (Maciejewski et al., 2013b)⊳ new transits and limits on transit time variations (Nascimbeni et al., 2013a)⊳ 11 new transits, and homogeneous treatment of a further 38, confirm linear ephemeris (Nascimbeni et al., 2013a)⊳ modelling of light curve and radial velocity of transits and spots using SOAP–T (Oshagh et al., 2013a)⊳ rapid atmospheric heat redistribution from Spitzer (Rostron et al., 2014)⊳ secondary eclipse with CFHT–WIRCam and limits on ground-based systematics (Croll et al., 2015a)⊳ new transit timing observations (Maciejewski et al., 2018b)⊳

WASP–4 discovery, radial velocity (Wilson et al., 2008)⊳ radial velocities and improved parameters (Gillon et al., 2009c)⊳ apsidal precession due to planetary tidal bulge (Ragozzine & Wolf, 2009)⊳ four transits from defocused observations (Southworth et al., 2009a)⊳ two transits and limits on transit time variations (Winn et al., 2009a)⊳ tidal heating models (Ibgui et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ Rossiter–McLaughlin effect (Triaud et al., 2010)⊳ secondary eclipse and atmosphere modeling from Spitzer (Beerer et al., 2011)⊳ secondary eclipse from ground near-infrared photometry (Cáceres et al., 2011)⊳ TERMS photometry (Dragomir et al., 2011)⊳ coupled radius–orbit evolutionary models (Ibgui et al., 2011)⊳ polarisation studies (Kostogryz et al., 2011)⊳ star spots and constraints on spin–orbit alignment (Sanchis-Ojeda et al., 2011)⊳ prospects for detecting bow shocks (Vidotto et al., 2011)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ three transits and limits on transit time variations (Nikolov et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ 12 transits from TraMoS confirm linear ephemeris, star spots give 34 d rotation (Hoyer et al., 2013)⊳ 6 transits and 28 archival confirm linear ephemeris (Petrucci et al., 2013)⊳ atmospheric characterisation with HST–WFC3 (Ranjan et al., 2014)⊳ thermal emission versus orbit phase with HST indicate large day/night variations (Stevenson et al., 2014d)⊳ orbital decay driven by tidal dissipation (Valsecchi & Rasio, 2014)⊳ compilation of light curves and transit timing (Baluev et al., 2015)⊳ transits with a 0.4-m telescope (Kjurkchieva et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ Gemini–GMOS transmission spectrum 440–940 nm (Huitson et al., 2017)⊳ flat optical spectrum (and first results) from Michigan–MOPSS (May et al., 2018)⊳

WASP–5 discovery, radial velocity (Anderson et al., 2008)⊳ radial velocities and improved parameters (Gillon et al., 2009c)⊳ two transits from defocused observations (Southworth et al., 2009c)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ Rossiter–McLaughlin effect (Triaud et al., 2010)⊳ TERMS photometry (Dragomir et al., 2011)⊳ 7 transits and possible transit time variations (Fukui et al., 2011)⊳ prospects for detecting bow shocks (Vidotto et al., 2011)⊳ 9 transits with TraMoS confirm linear ephemeris (Hoyer et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ atmospheric pressure–temperature profile from secondary eclipse with Spitzer–IRAC (Baskin et al., 2013)⊳ secondary eclipse from MPG–GROND (Chen et al., 2014a)⊳ compilation of light curves and transit timing (Baluev et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ multicolour characterisation (Moyano et al., 2017)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

WASP–6 discovery, radial velocity, and Rossiter–McLaughlin effect (Gillon et al., 2009a)⊳ tidal heating (Ibgui et al., 2010)⊳ TERMS photometry (Dragomir et al., 2011)⊳ coupled radius–orbit evolutionary models (Ibgui et al., 2011)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ featureless ground transmission spectrum from Baade–IMACS (Jordán et al., 2013)⊳ Spitzer secondary eclipse observations at 3.6 and 4.5 μm (Kammer et al., 2015)⊳ atmospheric haze (Nikolov et al., 2015)⊳ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)⊳ transits and star spots (Tregloan-Reed et al., 2015)⊳ atmospheric circulation (Kataria et al., 2016)⊳ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)⊳

WASP–7 discovery, radial velocity (Hellier et al., 2009b)⊳ transit from defocused observations, revised radius (Southworth et al., 2011)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ Rossiter–McLaughlin effect and stellar jitter (Albrecht et al., 2012a)⊳ tidal effects and spin–orbit alignment from eccentricity (Husnoo et al., 2012)⊳ physical properties (Southworth, 2012)⊳

WASP–8 2-planet system, planet b discovered from transits, planet c from radial velocity; discovery of planet b, radial velocity, Rossiter–McLaughlin effect and retrograde orbit (Queloz et al., 2010)⊳ 6 secondary eclipses and atmosphere modeling from Spitzer (Cubillos et al., 2013)⊳ discovery/confirmation of planet c from radial velocity with Keck–HIRES (Knutson et al., 2014c)⊳ Rossiter–McLaughlin effect and refined architecture (Bourrier et al., 2017a)⊳ atmospheric modeling with HELIOS (Malik et al., 2017)⊳

WASP–9 unpublished (false positive)

WASP–10 discovery, radial velocity (Christian et al., 2009)⊳ transits and revised radius (Johnson et al., 2009b)⊳ transits and revised radius (Dittmann et al., 2010)⊳ transits and revised radius (Krejčová et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ transits, star spots, transit time variations (Maciejewski et al., 2011a)⊳ transits, star spots, transit time variations (Maciejewski et al., 2011c)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ transits, star spots, transit time variations (Barros et al., 2013)⊳ radial velocity search for massive long-period companion (Knutson et al., 2014c)⊳ secondary eclipse in the Ks band with Calar Alto–OMEGA2000 (Cruz et al., 2015)⊳ Spitzer secondary eclipse observations at 3.6 and 4.5 μm (Kammer et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ transits from Monterrey observatory (Sada & Ramón-Fox, 2016)⊳

WASP–11 ≡ HAT–P–10; discovery, radial velocity (West et al., 2009b)⊳ independently as HAT–P–10 (Bakos et al., 2009b)⊳ infrared transits, star spots (Sada et al., 2012)⊳ radial velocity search for massive long-period companion (Knutson et al., 2014c)⊳ transits from Yunnan confirm linear ephemeris (Wang et al., 2014c)⊳ Rossiter–McLaughlin effect (Mancini et al., 2015a)⊳

WASP–12 short period ($P = 1.09$ d, $a = 0.2$ au), orbits primary of hierarchical triple system, irradiated and inflated, with early ultraviolet ingress due to bow shocks or Roche lobe overflow; discovery, radial velocity (Hebb et al., 2009)⊳ apsidal precession due to planetary tidal bulge (Ragozzine & Wolf, 2009)⊳ **2010:** ultraviolet secondary eclipse, exospheric metal absorption, and early ultraviolet ingress from HST (Fossati et al., 2010b)⊳ stellar abundances, limits on stellar magnetic field (Fossati et al., 2010a)⊳ tidal heating (Ibgui et al., 2010)⊳ early ultraviolet transit ingress due to bow shock and Roche lobe overflow/disk accretion (Lai et al., 2010)⊳ mass loss, possible perturbing planet (Li et al., 2010)⊳ secondary eclipse and atmospheric modeling (López-Morales et al., 2010)⊳ early transit ingress due to bow shock (Vidotto et al., 2010)⊳ **2011:** reflection effect (Budaj, 2011)⊳ secondary eclipse in near infrared from CFHT–WIRCam (Croll et al., 2011b)⊳ additional transits (Chan et al., 2011)⊳ secondary eclipses and limits on eccentricity and apsidal precession from Spitzer (Campo et al., 2011)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ high mass loss from extreme ultraviolet and X-ray radiation (Ehrenreich & Désert, 2011)⊳ limits on eccentricity from radial velocities (Husnoo et al., 2011)⊳ bow shock (Llama et al., 2011)⊳ transit time variations and possible perturbing planet (Maciejewski et al., 2011b)⊳ CO, H_2O, and CH_4 abundances (Madhusudhan et al., 2011b)⊳ models of C-rich atmospheric chemistry, thermal inversions, and formation (Madhusudhan et al., 2011c)⊳ C/O ratio arising from effects of the snow line (Öberg et al., 2011)⊳ consideration of bow shocks (Vidotto et al., 2011)⊳ **2012:** tidal effects on radial velocity (Arras et al., 2012)⊳ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)⊳ transits, improved ephemeris (Chan et al., 2012)⊳ secondary eclipse and atmospheric modeling from IRTF (Crossfield et al., 2012b)⊳ ellipsoidal variations at 3.6 and 4.5μm (Cowan et al., 2012)⊳ narrow-band secondary eclipse photometry and atmospheric modeling (Crossfield et al., 2012a)⊳ wavelength-dependent astrometric motion (Coughlin & López-Morales, 2012)⊳ near-ultraviolet absorption, chromospheric activity, star–planet interactions (Haswell et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ C_2H_2 versus CH_4 abundances (Kopparapu et al., 2012)⊳ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ possible star spots or satellites from Pulkovo (Sokov et al., 2012)▹ Ks-band secondary eclipse from ground (Zhao et al., 2012b)▹ plasma interactions between planet and host star (Bisikalo et al., 2013)▹ **2013:** stellar companion from lucky imaging (Bergfors et al., 2013)▹ Rayleigh scattering from high-altitude haze from WHT–ULTRACAM (Copperwheat et al., 2013)▹ absorbing gas from stellar irradiation responsible for low stellar activity index (Fossati et al., 2013a)▹ C-rich atmosphere from WHT–ULTRACAM (Föhring et al., 2013)▹ atmospheric disequilibrium diagnostics (Line & Yung, 2013)▹ 61 transits with transit time variations and possible perturbing planet (Maciejewski et al., 2013a)▹ C/O modeling and confirmation of C-rich atmosphere (Moses et al., 2013b)▹ H_2O absorption at 1.4 μm from HST–WFC3 (Mandell et al., 2013)▹ atmospheric heat redistribution efficiency drops as stellar insolation rises (Perez-Becker & Showman, 2013)▹ spectroscopy from HST, identification of hot spot near substellar point (Swain et al., 2013)▹ CO constraints from HST–WFC3 (Swain et al., 2013)▹ aerosols and lack of TiO from HST–WFC3 (Sing et al., 2013)▹ **2014:** C-rich planet formation in a solar-composition disk (Ali-Dib et al., 2014)▹ planet orbits primary of hierarchical triple system from Keck imaging (Bechter et al., 2014)▹ detecting exomoons via a transiting plasma torus (Ben-Jaffel & Ballester, 2014)▹ atmospheric disequilibrium diagnostics (Line et al., 2014)▹ orbit parameters versus atmospheric species (Miguel & Kaltenegger, 2014)▹ H_2O from HST–WFC3 (Madhusudhan et al., 2014)▹ exclusion of cloud-free H_2 atmosphere from Gemini–GMOS (Stevenson et al., 2014c)▹ C-rich atmosphere from HST and Spitzer secondary eclipses (Stevenson et al., 2014b)▹ **2015:** defocused transmission spectroscopy, and possible detection of Na (Burton et al., 2015)▹ maximum size of stationary quasi-closed gaseous envelope (Bisikalo et al., 2015)▹ secondary eclipse with CFHT–WIRCam and limits on ground-based systematics (Croll et al., 2015a)▹ detection of H_2O with HST–WFC3 (Kreidberg et al., 2015)▹ impact of stellar activity on X-ray and ultraviolet transits (Llama & Shkolnik, 2015)▹ near ultraviolet transit with HST (Nichols et al., 2015)▹ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)▹ **2016:** magnetospheric models, bow shocks, and near-ultraviolet absorption (Alexander et al., 2016)▹ C/O ratio, and CO, CO_2, and H_2O abundances (Heng & Lyons, 2016)▹ ultraviolet light curves attributed to outgassing from Trojan satellites on tadpole orbits (Kislyakova et al., 2016)▹ new transit times from 2012–16 suggestive of tidal decay (Maciejewski et al., 2016a)▹ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▹ near ultraviolet transit depth attributed to planet atmosphere (Turner et al., 2016a)▹ envelope enrichment and predicted H_2O abundance (Venturini et al., 2016)▹ **2017:** reduction of mass loss due to magnetic field (Arakcheev et al., 2017)▹ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)▹ very low albedo, $A_g < 0.064$, from spectral eclipse with HST–STIS (Bell et al., 2017)▹ effect of dynamical tides excited by gravity waves in the host star on planet's orbital evolution (Chernov et al., 2017)▹ limits on transit timing variations (Collins et al., 2017)▹ Roche lobe overflow model and mass-loss for short-period gaseous planets (Jackson et al., 2017)▹ atmospheric modeling with HELIOS (Malik et al., 2017)▹ sensitivity of atmospheric models to prior assumptions (Oreshenko et al., 2017)▹ transit/secondary eclipse favour tidal decay ($\dot{P} = 29 \pm 3\,\mathrm{ms\,yr^{-1}}$) over apsidal precession (Patra et al., 2017)▹ phase offsets and energy budgets (Schwartz et al., 2017)▹ atmospheric clouds associated with metal-rich host star (Wakeford et al., 2017c)▹ tidal decay model suggest planet is in the last 0.1% of its life (Weinberg et al., 2017)▹ **2018:** atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▹ generation of a circumstellar gas disk by the hot Jupiter (Debrecht et al., 2018)▹ H and Na absorption in the optical transmission spectrum (Jensen et al., 2018)▹ refined orbital decay rate from transit timing (Maciejewski et al., 2018a)▹ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)▹ rapid orbital decay driven by obliquity tides (Millholland & Laughlin, 2018)▹

WASP–13 discovery, radial velocity (Skillen et al., 2009)▹ four transits from RISE, improved ephemeris (Barros et al., 2012)▹ photometry and new spectroscopy (Southworth, 2012)▹ parameters from HoSTS (Gómez Maqueo Chew et al., 2013a)▹ Rossiter–McLaughlin effect from OHP–SOPHIE (Brothwell et al., 2014)▹ far ultraviolet spectroscopy of host star, irradiance, and planet mass-loss (Fossati et al., 2015)▹ low chromospheric activity attributed to intervening ISM absorption (Fossati et al., 2017)▹ 4.5 μm secondary eclipse depths with Spitzer–IRAC (Kilpatrick et al., 2017)▹

WASP–14 discovery, radial velocity confirmation, high density, and Rossiter–McLaughlin effect (Joshi et al., 2009)▹ Rossiter–McLaughlin effect (Johnson et al., 2009a)▹ radial velocities, non-zero eccentricity (Husnoo et al., 2011)▹ tidal effects on radial velocity (Arras et al., 2012)▹ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▹ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)▹ photometry and new spectroscopy (Southworth, 2012)▹ secondary eclipse from Spitzer (Blecic et al., 2013)▹ spectroscopic inferences from high-resolution V-band spectrum (Czekala et al., 2015)▹ transit time analysis of 19 light curves (Raetz et al., 2015)▹ full-orbit phase curves at 3.6 and 4.5 μm with Spitzer (Wong et al., 2015)▹ nearby star from lucky imaging (Wöllert et al., 2015)▹ phase curve from sparsely-sampled Spitzer–IRAC observations (Krick et al., 2016)▹ radial velocity with low-cost échelle spectroscopy at 0.6-m Stará Lesná Observatory, Slovakia (Garai et al., 2017)▹ atmospheric modeling with HELIOS (Malik et al., 2017)▹ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)▹

WASP–15 discovery, radial velocity confirmation (West et al., 2009a)▹ tidal heating (Ibgui et al., 2010)▹ Rossiter–McLaughlin effect (Triaud et al., 2010)▹ transits with WHT–ULTRACAM (Bento & Wheatley, 2011)▹ coupled radius–orbit evolutionary models (Ibgui et al., 2011)▹ defocused transits from MPG–GROND (Southworth et al., 2013)▹ 4.5 μm secondary eclipse depths with Spitzer–IRAC (Kilpatrick et al., 2017)▹

WASP–16 host star solar analogue; discovery, radial velocity confirmation (Lister et al., 2009)▹ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)▹ Rossiter–McLaughlin effect (Brown et al., 2012a)▹ defocused transits from MPG–GROND (Southworth et al., 2013)▹ 4.5 μm secondary eclipse depths with Spitzer–IRAC (Kilpatrick et al., 2017)▹

WASP–17 retrograde orbit, low density, inflated atmospheric scale height; discovery, radial velocity confirmation, Rossiter–McLaughlin effect, probable retrograde orbit (Anderson et al., 2010b)▹ Rossiter–McLaughlin effect, confirmed retrograde orbit (Bayliss et al., 2010)▹ planetary structure in a tidally-relaxed inclined system (Mardling, 2010)▹ Rossiter–McLaughlin effect, confirmed retrograde orbit (Triaud et al., 2010)▹ secondary eclipse and marginally eccentric orbit from Spitzer (Anderson et al., 2011e)▹ transits with ULTRACAM (Bento & Wheatley, 2011)▹ models of thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)▹ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▹ high mass loss from extreme ultraviolet and X-ray radiation (Ehrenreich & Désert, 2011)▹ Na absorption with VLT–GIRAFFE (Wood et al., 2011)▹ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▹ four transits confirming large radius and circular orbit (Southworth et al., 2012b)▹ Na absorption with Magellan–MIKE (Zhou & Bayliss, 2012)▹ broad H_2O absorption at 1.4 μm from HST–WFC3 (Mandell et al., 2013)▹ transmission spectrophotometry from NTT–ULTRACAM (Bento et al., 2014)▹ cloudiness index based on transit radii associated with line centre/wing of Na/K (Heng, 2016)▹ atmospheric circulation (Kataria et al., 2016)▹ K detection from transmission spectroscopy with VLT–FORS2 (Sedaghati et al., 2016)▹ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▹ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)▹ limits on low-frequency radio emission (Lynch et al., 2017)▹ optical high-resolution transmission spectroscopy (Khalafinejad et al., 2018)▹

WASP–18 massive, hot, short-period planet; discovery, radial velocity, tidal decay (Hellier et al., 2009a)▹ 5 transits (Southworth et al., 2009b)▹ homogeneous analysis and light curve properties (Southworth, 2010)▹ Rossiter–McLaughlin effect (Triaud et al., 2010)▹ transit time variations due to stellar quadrupole (Watson & Marsh, 2010)▹ tidal interaction and stellar spin-up (Brown et al., 2011)▹ reflection effect (Budaj, 2011)▹ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▹ secondary eclipse from Spitzer (Nymeyer et al., 2011)▹ prospects for detecting bow shocks (Vidotto et al., 2011)▹ tidal effects on radial velocity (Arras et al., 2012)▹ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)▹ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▹ non-detection of star–planet interactions (Miller et al., 2012)▹ photometry and new spectroscopy (Southworth, 2012)▹ atmospheric heat redistribution (Iro & Maxted, 2013)▹ orbit and secondary eclipse from Spitzer (Maxted et al., 2013b)▹ atmospheric heat redistribution efficiency drops as stellar insolation rises (Perez-Becker & Showman, 2013)▹ predicted shift in transit mid-time due to tidal decay of $36\,\mathrm{s\,yr^{-1}}$ (Birkby et al., 2014)▹

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absorbing gas from stellar irradiation responsible for low stellar activity index (Fossati et al., 2014)▷ observations from ASTEP, Antarctic (Fruth et al., 2014)▷ age and activity from X-ray limits from Chandra (Pillitteri et al., 2014b)▷ limits on radio emission at 154 MHz from the Murchison Widefield Array (Murphy et al., 2015)▷ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)▷ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)▷ magnetospheric models, bow shocks, and near-ultraviolet absorption (Alexander et al., 2016)▷ effect of dynamical tides excited by gravity waves in the host star on planet's orbital evolution (Chernov et al., 2017)▷ evidence for day-side thermal inversion from HST and Spitzer secondary eclipse (Sheppard et al., 2017)▷ no signature of rapid orbital decay (Wilkins et al., 2017)▷ atmospheric properties from thermal models of Spitzer data (Adams & Laughlin, 2018)▷ H^- opacity and water dissociation in the day-side atmosphere (Arcangeli et al., 2018)▷ stellar polarisation (Bott et al., 2018)▷ suppressed far-UV stellar activity and low planetary mass loss (Fossati et al., 2018)▷ near-infrared secondary eclipses with AAT, Magellan–Clay, and LCOGT (Kedziora-Chudczer et al., 2018)▷ pre-discovery transits from Hipparcos (McDonald & Kerins, 2018)▷

WASP–19 very short-period ($P = 0.79$ d) planet; discovery, radial velocity confirmation, stellar rotation, tidal spin-up (Hebb et al., 2010)▷ secondary eclipse from VLT–HAWK–I (Anderson et al., 2010a)▷ secondary eclipse from VLT–HAWK–I (Gibson et al., 2010a)▷ tidal interaction and stellar spin-up (Brown et al., 2011)▷ reflection effect (Budaj, 2011)▷ TERMS photometry (Dragomir et al., 2011)▷ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▷ Rossiter–McLaughlin effect, third-body interactions, tidal decay (Hellier et al., 2011a)▷ prospects for detecting bow shocks (Vidotto et al., 2011)▷ tidal effects on radial velocity (Arras et al., 2012)▷ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)▷ secondary eclipse from NTT–ULTRACAM (Burton et al., 2012)▷ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)▷ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)▷ evidence of secondary eclipse from Antarctic ASTEP 400 (Abe et al., 2013)▷ Spitzer–IRAC confirms temperature inversions suppressed in hot Jupiters orbiting active stars (Anderson et al., 2013)▷ transmission and emission spectra from Magellan–MMIRS (Bean et al., 2013)▷ H_2O and TiO limits from HST–STIS (Huitson et al., 2013)▷ 14 transits and improved system parameters (Lendl et al., 2013)▷ atmospheric disequilibrium diagnostics (Line & Yung, 2013)▷ broad 1.4 μm H_2O absorption from HST–WFC3 (Mandell et al., 2013)▷ multicolour photometry from Perth–PEST and MPG–GROND (Mancini et al., 2013a)▷ star spots and spin–orbit projection (Tregloan-Reed et al., 2013)▷ secondary eclipse from Faulkes South (Zhou et al., 2013)▷ effects of planet tidal distortion (Burton et al., 2014)▷ atmospheric disequilibrium diagnostics (Line et al., 2014)▷ orbital decay driven by tidal dissipation (Valsecchi & Rasio, 2014)▷ Ks-band secondary eclipse from AAT–IRIS2 (Zhou et al., 2014b)▷ gyrochronology and isochrone ages (Maxted et al., 2015)▷ transmission spectroscopy using VLT–KMOS (Parviainen et al., 2015)▷ optical ground-based transmission spectroscopy with VLT–FORS2 (Sedaghati et al., 2015)▷ orbital decay due to non-linear tidal dissipation, with expected detection within 2–3 yr (Essick & Weinberg, 2016)▷ atmospheric circulation (Kataria et al., 2016)▷ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▷ 3.6 and 4.5 μm Spitzer phase curves (Wong et al., 2016)▷ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)▷ unsupervised correlated noise removal for transit light curve fitting (Dehghan Firoozabadi et al., 2017)▷ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)▷ empirical tidal dissipation in exoplanet hosts from tidal spin-up (Penev et al., 2018)▷

WASP–20 close visual binary with a transiting hot Jupiter; discovery, Rossiter–McLaughlin effect (Anderson et al., 2015a)▷ stellar binary with separation 0.26 arcsec (60 au) with planet probably orbiting the primary (Evans et al., 2016a)▷

WASP–21 discovery, radial velocity confirmation (Bouchy et al., 2010)▷ transits and ephemeris from RISE (Barros et al., 2011b)▷ photometry and spectroscopy (Southworth, 2012)▷ transits with two telescopes (Ciceri et al., 2013)▷ ground-based transits (Seeliger et al., 2015)▷

WASP–22 discovery, radial velocity confirmation, probable orbit around one component of stellar binary (Maxted et al., 2010b)▷ Rossiter–McLaughlin effect from ESO–HARPS and others (Anderson et al., 2011b)▷ high-precision photometry from defocussed observations with ESO–DFOSC (Southworth et al., 2016)▷

WASP–23 discovery, radial velocity confirmation, Rossiter–McLaughlin effect (Triaud et al., 2011)▷ optical-infrared spectrum from MPG–GROND (Nikolov et al., 2013)▷

WASP–24 discovery, radial velocity (Street et al., 2010)▷ Rossiter–McLaughlin effect from OHP–SOPHIE (Simpson et al., 2011c)▷ secondary eclipse and atmospheric modeling from Spitzer (Smith et al., 2012b)▷ defocused transits, lucky imaging excludes nearby stars (Southworth et al., 2014)▷ new photometry and atmospheric models (Turner et al., 2017)▷

WASP–25 discovery, radial velocity (Enoch et al., 2011b)▷ polarisation studies (Kostogryz et al., 2011)▷ Rossiter–McLaughlin effect (Brown et al., 2012a)▷ defocused transit observations, lucky imaging excludes nearby stars (Southworth et al., 2014)▷

WASP–26 discovery, radial velocity (Smalley et al., 2010)▷ Rossiter–McLaughlin effect from HARPS and others (Anderson et al., 2011b)▷ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)▷ transmission photometry with Spitzer (Mahtani et al., 2013)▷ defocused transits, lucky imaging excludes nearby stars (Southworth et al., 2014)▷

WASP–27 see HAT–P–14

WASP–28 ≡ K2–1; discovery and Rossiter–McLaughlin effect (Anderson et al., 2015a)▷ transit timing analysis (Petrucci et al., 2015)▷ additional transit observations (Maciejewski et al., 2016b)▷ star spots and obliquity from K2 (Močnik et al., 2017a)▷

WASP–29 discovery, radial velocity (Hellier et al., 2010)▷ TERMS photometry (Dragomir et al., 2011)▷ transmission spectroscopy from Gemini–MOS (Gibson et al., 2013a)▷

WASP–30 not in NASA; brown dwarf, $61M_J$ (Anderson et al., 2011c)▷ Rossiter–McLaughlin effect (Triaud et al., 2013b)▷

WASP–31 discovery, radial velocity (Anderson et al., 2011d)▷ TERMS photometry (Dragomir et al., 2011)▷ Rossiter–McLaughlin effect from Magellan, Keck (Albrecht et al., 2012b)▷ Rossiter–McLaughlin effect (Brown et al., 2012a)▷ transmission spectral survey in optical with HST and infrared with Spitzer, and detection of K (Sing et al., 2015)▷ cloudiness index based on transit radii associated with line centre/wing of Na/K (Heng, 2016)▷ atmospheric circulation (Kataria et al., 2016)▷ cloud deck and Rayleigh scattering, but no K, from VLT–FORS2 transmission spectroscopy (Gibson et al., 2017)▷ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)▷ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)▷ evidence of N chemistry (NH_3) from HST–WFC3 (MacDonald & Madhusudhan, 2017b)▷ secondary eclipse from CFHT–WIRCam (Martioli et al., 2018)▷

WASP–32 discovery, radial velocity (Maxted et al., 2010a)▷ Rossiter–McLaughlin effect (Brown et al., 2012b)▷ Rossiter–McLaughlin effect from OHP–SOPHIE (Brothwell et al., 2014)▷ transit timing and homogeneous studies (Sun et al., 2015)▷ spectroscopic transit observations with Russian BTA telescope (Grauzhanina et al., 2017)▷

WASP–33 short period ($P = 1.2$ d) hot planet orbiting δ Scu star; discovery, radial velocity confirmation, line-profile tomography, projected obliquity, tidal excitation of stellar pulsations (Collier Cameron et al., 2010b)▷ reflection effect (Budaj, 2011)▷ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)▷ 68 min pulsations of host star (Herrero et al., 2011)▷ nodal precession (Iorio, 2011)▷ possible companion from Keck adaptive optics (Moya et al., 2011)▷ secondary eclipse, stellar pulsations (Smith et al., 2011)▷ tidal effects on radial velocity (Arras et al., 2012)▷ secondary eclipses and atmospheric modeling from Spitzer (Deming et al., 2012)▷ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)▷ secondary eclipses from WHT–LIRIS (de Mooij et al., 2013b)▷ pulsation, orbit periods, possible star spots (Kovács et al., 2013)▷ host star pulsations from 457 h of small telescope photometry, limits on star–planet interactions (von Essen et al., 2014)▷ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)▷ transit observations with WHT–pt5m (Hardy et al., 2015)▷ spectroscopic evidence for temperature inversion in day-side atmosphere (Haynes et al., 2015)▷ nodal precession from Doppler tomography (Johnson et al., 2015a)▷ pulsation frequency analysis and revised mass (Lehmann et al., 2015)▷ temperature inversion from secondary eclipse with LBT (von Essen et al., 2015)▷ stellar and orbit parameters from orbital dynamics (Iorio, 2016)▷ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)▷ atmospheric modeling with HELIOS (Malik et al., 2017)▷ inversion and TiO molecular

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absorption from Subaru–HDS (Nugroho et al., 2017)⊳ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)⊳ constraints on orbital decay from transit timing (Maciejewski et al., 2018a)⊳ pre-discovery transits from Hipparcos (McDonald & Kerins, 2018)⊳ correlation between phase curve offset and irradiation temperature (Zhang et al., 2018a)⊳

WASP–34 near-grazing transit, in hierarchical triple system; discovery, radial velocity (Smalley et al., 2011)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳

WASP–35 discovery, radial velocity (Enoch et al., 2011a)⊳

WASP–36 discovery, radial velocity (Smith et al., 2012a)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ new transit observations (Maciejewski et al., 2016b)⊳ 5 new multicolour transits and constraints on transmission spectrum (Mancini et al., 2016b)⊳ orbital decay due to non-linear tidal dissipation (Essick & Weinberg, 2016)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

WASP–37 low-metallicity star; radial velocity (Simpson et al., 2011b)⊳

WASP–38 discovery, radial velocity (Barros et al., 2011a)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect from OHP–SOPHIE (Simpson et al., 2011c)⊳ Rossiter–McLaughlin effect from OHP–SOPHIE (Brown et al., 2012b)⊳

WASP–39 discovery, radial velocity (Faedi et al., 2011)⊳ Spitzer secondary eclipse observations at 3.6 and 4.5 μm (Kammer et al., 2015)⊳ multicolour transit observations (Ricci et al., 2015)⊳ Rayleigh scattering with Na and K absorption from HST–STIS (Fischer et al., 2016)⊳ atmospheric circulation (Kataria et al., 2016)⊳ additional transit observations (Maciejewski et al., 2016b)⊳ improved transit ephemeris (Maciejewski et al., 2016c)⊳ transmission spectroscopy with Na absorption from VLT–FORS2 (Nikolov et al., 2016)⊳ H_2O in clear/cloudy atmospheres from infrared transit spectroscopy (Sing et al., 2016)⊳ atmospheric retrieval analysis with NEMESIS (Barstow et al., 2017)⊳ three near-infrared H_2O-absorption features and $T_{eq} = 1030^{+30}_{-20}$ K from HST–WFC3 (Wakeford et al., 2018)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2018)⊳ complete transmission spectrum with a precise H_2O constrain (Wakeford et al., 2018)⊳

WASP–40 see HAT–P–27

WASP–41 2-planet system, inner (planet b) discovered from transits, outer (planet c) from radial velocity; discovery of planet b and radial velocity confirmation with CORALIE (Maxted et al., 2011)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ refined physical properties (Vaňko et al., 2015)⊳ discovery of planet c from radial velocity, and Rossiter–McLaughlin effect (Neveu-VanMalle et al., 2016)⊳ high-precision photometry from defocussed observations with ESO–DFOSC (Southworth et al., 2016)⊳ modeling of star spots using `PyTranSpot` (Juvan et al., 2018)⊳

WASP–42 discovery, radial velocity (Lendl et al., 2012)⊳ high-precision photometry from defocussed observations with ESO–DFOSC (Southworth et al., 2016)⊳

WASP–43 very short-period ($P = 0.81$ d) hot Jupiter orbiting cool low-mass star; discovery, radial velocity (Hellier et al., 2011b)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ 23 transits and 7 secondary eclipses from TRAPPIST (Gillon et al., 2012b)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ X-ray emission and inferred mass loss from XMM–Newton (Czesla et al., 2013)⊳ atmospheric disequilibrium diagnostics (Line & Yung, 2013)⊳ transit times from 2009–2013 consistent with linear ephemeris (Maciejewski et al., 2013c)⊳ secondary eclipse from CFHT–WIRCam (Wang et al., 2013b)⊳ constraints from Spitzer secondary eclipse (Blecic et al., 2014)⊳ transit and secondary eclipse from MPG–GROND (Chen et al., 2014b)⊳ tidal evolution (Dong, 2014)⊳ H_2O content from HST–WFC3 consistent with solar composition (Kreidberg et al., 2014a)⊳ atmospheric disequilibrium (Line et al., 2014)⊳ transit spectroscopy from GTC–OSIRIS (Murgas et al., 2014)⊳ emission spectroscopy over three planet rotations from HST–WFC3 (Stevenson et al., 2014d)⊳ Ks-band secondary eclipse from AAT–IRIS2 (Zhou et al., 2014b)⊳ atmospheric circulation (Kataria et al., 2015)⊳ multicolour transit observations (Ricci et al., 2015)⊳ high-energy irradiation and mass-loss rates (Salz et al., 2015)⊳ constraints on Bond albedo and day–night heat transport from secondary eclipse depths (Schwartz & Cowan, 2015)⊳ transits observed with SAO 1-m telescope (Valyavin et al., 2015b)⊳ effect of non-uniform thermal structure on emission spectrum (Feng et al., 2016)⊳ 15 new transits constrain negate rapid orbital decay (Hoyer et al., 2016b)⊳ orbital period decay rate $-0.029 \pm 0.007\,\mathrm{s\,yr}^{-1}$ (Jiang et al., 2016)⊳ envelope enrichment and predicted H_2O abundance (Venturini et al., 2016)⊳ effect of dynamical tides excited by gravity waves in the host star on planet's orbital evolution (Chernov et al., 2017)⊳ Rossiter–McLaughlin effect and orbital obliquity from HARPS–N (Esposito et al., 2017)⊳ models of day–night temperature contrast (Keating & Cowan, 2017)⊳ phase curve and secondary eclipse modeled with SPIDERMAN, and the inference of clouds (Louden & Kreidberg, 2018)⊳ atmospheric modeling with HELIOS (Malik et al., 2017)⊳ chromospheric activity, mass loss, and star–planet interaction (Staab et al., 2017)⊳ Spitzer phase curve constraints at 3.6 and 4.5 μm (Stevenson et al., 2017)⊳ atmospheric structure and dynamics from Doppler-shifted emission spectra (Zhang et al., 2017)⊳ confronting re-analysed Spitzer data with cloudy atmospheres (Mendonça et al., 2018a)⊳ atmospheric properties from thermal model of Spitzer data (Adams & Laughlin, 2018)⊳ SPIDERMAN open-source code to model phase curves and secondary eclipses (Louden & Kreidberg, 2018)⊳ confronting re-analysed Spitzer data with cloudy atmospheres (Mendonça et al., 2018a)⊳ 3d-circulation driving chemical disequilibrium(Mendonça et al., 2018b)⊳ transit timing variations (Sun et al., 2018)⊳ photometric follow-up and transit timing analysis with the Xuyi Near-Earth Object Survey Telescope (Zhao et al., 2018b)⊳

WASP–44 discovery, radial velocity (Anderson et al., 2012)⊳ multicolour photometry and improved radius (Mancini et al., 2013b)⊳ multicolour characterisation (Moyano et al., 2017)⊳

WASP–45 discovery, radial velocity (Anderson et al., 2012)⊳ system properties from multi-colour photometry (Ciceri et al., 2016b)⊳

WASP–46 discovery, radial velocity (Anderson et al., 2012)⊳ thermal day-side emission from MPG–GROND (Chen et al., 2014c)⊳ transits with 0.4-m telescope (Kjurkchieva et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ system properties from multi-colour photometry (Ciceri et al., 2016b)⊳ multicolour characterisation (Moyano et al., 2017)⊳ limits on transit timing variations and orbit decay (Petrucci et al., 2018)⊳

WASP–47 ≡ K2–23; 4-planet system, planet b transiting, planet c from radial velocity, and planets d and e also transiting; discovery of planet b and radial velocity confirmation with CORALIE (Hellier et al., 2012)⊳ two additional transiting planets (d and e) from K2, transit time variations (Becker et al., 2015)⊳ radial velocity monitoring with Magellan–PFS (Dai et al., 2015)⊳ Rossiter–McLaughlin effect and low stellar obliquity (Sanchis-Ojeda et al., 2015b)⊳ densities, masses and radii from dynamical modeling (Almenara et al., 2016)⊳ representing the extended tail of *in situ* formation warm Jupiters into the hot Jupiter region (Huang et al., 2016)⊳ discovery/confirmation of planet c from radial velocity (Neveu-VanMalle et al., 2016)⊳ effect of unseen additional perturber (Becker & Adams, 2017)⊳ mass constraints from radial velocities (Sinukoff et al., 2017b)⊳ precise masses from HARPS–N (Vanderburg et al., 2017)⊳ hot Jupiter migration attributed to disk interactions (Wang et al., 2017a)⊳ analysis of radial velocities and transit timing variations (Weiss et al., 2017)⊳ bulk density dependent on high-temperature condensates (Dorn et al., 2018a)⊳

WASP–48 discovery, radial velocity (Enoch et al., 2011a)⊳ secondary eclipses and eccentricity from Spitzer–IRAC and Palomar–WFIRCam (O'Rourke et al., 2014)⊳ physical properties from multicolour photometry (Ciceri et al., 2015b)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ transmission spectrum from GCT–OSIRIS (Murgas et al., 2017)⊳ thermal emission in the K_s-band (Clark et al., 2018b)⊳

WASP–49 discovery, radial velocity (Lendl et al., 2012)⊳ atmospheric properties from transmission spectroscopy with VLT–FORS2 (Lendl et al., 2016)⊳ aerosol constraints (Cubillos et al., 2017)⊳ transmission spectroscopy and Rossiter–McLaughlin effect from HARPS (Wyttenbach et al., 2017)⊳ transit light curves with simultaneous fit to stellar specific intensity and planetary radius (Aronson & Piskunov, 2018)⊳

WASP–50 discovery, radial velocity (Gillon et al., 2011b)⊳ tidal evolution (Dong & Ji, 2012)⊳ defocused transits with NTT–EFOSC2 (Tregloan-Reed & Southworth, 2013)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

WASP–51 see HAT–P–30

WASP–52 discovery, radial velocity, Rossiter–McLaughlin effect (Hébrard et al., 2013b)⊳ compilation of light curves and transit

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timing (Baluev et al., 2015)⊳ transit observations with MINERVA (Swift et al., 2015)⊳ transmission spectrum with WHT–ULTRACAM indicates stellar bright spot (Kirk et al., 2016)⊳ orbital alignment and star-spot properties (Mancini et al., 2017)⊳ atmospheric Na absorption with GTC–OSIRIS (Chen et al., 2017b)⊳ optical transmission spectrum 400–875 nm from WHT (Louden et al., 2017b)⊳ Na I and evidence of a cloudy atmosphere from HST (Alam et al., 2018)⊳ star spot occultations in infrared transit spectroscopy (Bruno et al., 2018b)⊳ flat optical spectrum (and first results) from Michigan–MOPSS (May et al., 2018)⊳

WASP–53 2-planet system: transiting hot Jupiter with additional transiting brown dwarf (planet c, > $16M_{\rm J}$) on highly-eccentric ($e = 0.84$) orbit; discovery and Rossiter–McLaughlin effect (Triaud et al., 2017)⊳

WASP–54 discovery, radial velocity (Faedi et al., 2013a)⊳ improved orbit from HARPS–N (Bonomo et al., 2017a)⊳

WASP–55 discovery, radial velocity (Hellier et al., 2012)⊳ recovery from K2SC pipeline processing (Pope et al., 2016)⊳ high-precision photometry from defocussed observations with ESO–DFOSC (Southworth et al., 2016)⊳ variability, star spots and rotation from K2 (Clark et al., 2018a)⊳

WASP–56 discovery, radial velocity (Faedi et al., 2013a)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳

WASP–57 discovery, radial velocity (Faedi et al., 2013a)⊳ revised properties and shorter orbital period (Southworth et al., 2015b)⊳

WASP–58 discovery, radial velocity (Hébrard et al., 2013b)⊳ nearby star from lucky imaging (Wöllert et al., 2015)⊳

WASP–59 discovery, radial velocity (Hébrard et al., 2013b)⊳

WASP–60 discovery, radial velocity (Hébrard et al., 2013b)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳ Rossiter–McLaughlin effect from HARPS–N (Mancini et al., 2018)⊳

WASP–61 discovery, radial velocity (Hellier et al., 2012)⊳ Rossiter–McLaughlin models and their effect on estimates of stellar rotation (Brown et al., 2017)⊳

WASP–62 discovery, radial velocity (Hellier et al., 2012)⊳ favourable for lightning-discharge studies (Hodosán et al., 2016a)⊳ candidate for JWST (Stevenson et al., 2016b)⊳ Rossiter–McLaughlin models and effect on stellar rotation estimates (Brown et al., 2017)⊳ 4.5 μm secondary eclipse depths with Spitzer–IRAC (Kilpatrick et al., 2017)⊳

WASP–63 discovery, radial velocity (Hellier et al., 2012)⊳ N chemistry (HCN) from HST–WFC3 (MacDonald & Madhusudhan, 2017b)⊳ evaluation for JWST early release science programme (Kilpatrick et al., 2018)⊳

WASP–64 discovery, radial velocity (Gillon et al., 2013)⊳

WASP–65 discovery, radial velocity (Gómez Maqueo Chew et al., 2013b)⊳

WASP–66 discovery, radial velocity (Hellier et al., 2012)⊳ Rossiter–McLaughlin effect from AAT–UCLES (Addison et al., 2016)⊳

WASP–67 discovery, radial velocity (Hellier et al., 2012)⊳ grazing transits and multicolour photometry with MPG–GROND (Mancini et al., 2014b)⊳ Spitzer secondary eclipse at 3.6 and 4.5 μm (Kammer et al., 2015)⊳ cloud model from HST–WFC3 (Bruno et al., 2018a)⊳

WASP–68 discovery, radial velocity (Delrez et al., 2014)⊳

WASP–69 discovery, radial velocity, X-ray induced high evaporation rate (Anderson et al., 2014b)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ favourable for lightning-discharge studies (Hodosán et al., 2016a)⊳ atmospheric Na, and Rossiter–McLaughlin effect from HARPS–N (Casasayas-Barris et al., 2017)⊳ ground-based detection of extended He atmosphere (Nortmann et al., 2018)⊳

WASP–70A planet orbits the evolved primary of a G4+K3 binary; discovery, radial velocity (Anderson et al., 2014b)⊳

WASP–71 discovery, radial velocity, and Rossiter–McLaughlin effect (Smith et al., 2013)⊳ Rossiter–McLaughlin models and their effect on estimates of stellar rotation (Brown et al., 2017)⊳

WASP–72 discovery, radial velocity (Gillon et al., 2013)⊳ chromospheric activity, mass loss, and star–planet interaction (Staab et al., 2017)⊳ spin–orbit measurements (Addison et al., 2018)⊳

WASP–73 discovery, radial velocity (Delrez et al., 2014)⊳

WASP–74 discovery, radial velocity (Hellier et al., 2015)⊳

WASP–75 ≡ K2–40; discovery, radial velocity (Gómez Maqueo Chew et al., 2013b)⊳ independent discovery by K2 (Crossfield et al., 2016)⊳ variability, star spots and rotation from K2 (Clark et al., 2018a)⊳

WASP–76 discovery, radial velocity (West et al., 2016)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳ Ks-band secondary eclipse observations with AAT–IRIS2 (Zhou et al., 2015b)⊳ confirmed stellar companion from lucky imaging (Ginski et al., 2016)⊳ Rossiter–McLaughlin models and their effect on estimates of stellar rotation (Brown et al., 2017)⊳ population study of gaseous exoplanets (Tsiaras et al., 2018)⊳

WASP–77A discovery, radial velocity (Maxted et al., 2013a)⊳ possible radio detection with VLA FIRST (Sirothia et al., 2014)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ high-energy irradiation and mass-loss rates (Salz et al., 2015)⊳ no asymmetry in ground-based ultraviolet transits (Turner et al., 2016b)⊳ constraints on co-orbiting Trojans (Lillo-Box et al., 2018)⊳

WASP–78 very hot Jupiter; discovery, radial velocity (Smalley et al., 2012)⊳ Rossiter–McLaughlin models and their effect on estimates of stellar rotation (Brown et al., 2017)⊳

WASP–79 largest WASP planet ($2.1R_{\rm J}$); discovery, radial velocity (Smalley et al., 2012)⊳ Rossiter–McLaughlin effect indicating near-polar orbit from AAT–UCLES (Addison et al., 2013)⊳ favourable for polarisation studies (Wiktorowicz & Laughlin, 2014)⊳ Rossiter–McLaughlin models and estimates of stellar rotation (Brown et al., 2017)⊳ Rossiter–McLaughlin effect (Johnson et al., 2017)⊳

WASP–80 M dwarf host star and large transit depth; discovery, radial velocity, Rossiter–McLaughlin effect (Triaud et al., 2013a)⊳ five transits (Fukui et al., 2014)⊳ transmission spectrum from multicolour photometry (Mancini et al., 2014a)⊳ high-energy irradiation and mass-loss rates (Salz et al., 2015)⊳ transit, secondary eclipse, cool day-side temperature, aligned orbit from Spitzer (Triaud et al., 2015)⊳ atmospheric escape of hot gas coupling plasma, photoionisation and Ly-α emission (Salz et al., 2016)⊳ photometric observations and transit solutions (Kjurkchieva et al., 2017)⊳ atmospheric properties from VLT–FORS2 transmission spectrum (Sedaghati et al., 2017)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳ transmission spectrum from WHT–ACAM consistent with haze (Kirk et al., 2018)⊳ flat transmission spectrum from GTC–OSIRIS (Parviainen et al., 2018)⊳ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)⊳

WASP–81 transiting hot Jupiter with additional brown dwarf on eccentric orbit (Triaud et al., 2017)⊳

WASP–82 discovery, radial velocity (West et al., 2016)⊳ revised properties (Smith, 2015)⊳

WASP–83 discovery, radial velocity (Hellier et al., 2015)⊳

WASP–84 long period; discovery, radial velocity (Anderson et al., 2014b)⊳ Rossiter–McLaughlin effect and implications for migration history from HARPS–N (Anderson et al., 2015b)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

WASP–85A ≡ K2–94; discovery and occultation of star spots (Močnik et al., 2016b)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳ improved ground-based transit photometry using beam-shaping diffusers (Stefansson et al., 2017)⊳ disentangling blended K2 photometry (Payne et al., 2018)⊳

WASP–86 in preparation

WASP–87 not in NASA; discovery (Anderson et al., 2014a)⊳ Rossiter–McLaughlin effect from AAT–UCLES (Addison et al., 2016)⊳

WASP–88 discovery, radial velocity (Delrez et al., 2014)⊳

WASP–89 discovery, radial velocity, star spots (Hellier et al., 2015)⊳ gyrochronology and isochrone ages (Maxted et al., 2015)⊳

WASP–90 discovery, radial velocity (West et al., 2016)⊳

WASP–91 discovery, radial velocity (Anderson et al., 2017)⊳

WASP–92 discovery (Hay et al., 2016)⊳

WASP–93 discovery (Hay et al., 2016)⊳

WASP–94A two hot-Jupiters, each orbiting one component of 15 arcsec binary (WASP–94A and WASP–94B); WASP–94A b transits, WASP–94B b does not transit and discovered from radial velocity; mutual inclination indicates at least one inclined to stellar binary plane; discovery of both planets, radial velocities, and Rossiter–McLaughlin effect for WASP–94A b (Neveu-VanMalle et al., 2014)⊳ unexplained stellar elemental abundance differences (Teske et al., 2016a)⊳

WASP–95 discovery, radial velocity (Hellier et al., 2014)⊳

WASP–96 discovery, radial velocity (Hellier et al., 2014)⊳ absolute Na abundance for a cloud-free planet (Nikolov et al., 2018a)⊳

WASP–97 discovery, radial velocity (Hellier et al., 2014)⊳

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WASP–98 hot Jupiter orbiting a metal-poor main-sequence star; discovery, radial velocity (Hellier et al., 2014)⊳ optical transmission spectrum (Mancini et al., 2016a)⊳

WASP–99 discovery, radial velocity (Hellier et al., 2014)⊳

WASP–100 discovery, radial velocity (Hellier et al., 2014)⊳ spin–orbit measurements (Addison et al., 2018)⊳

WASP–101 discovery, radial velocity (Hellier et al., 2014)⊳ absence of H_2O from HST–PanCET programme, and candidate for JWST (Wakeford et al., 2017b)⊳

WASP–102 in preparation

WASP–103 short period (0.93 d) large radius planet close tidal disruption; discovery, radial velocity (Gillon et al., 2014a)⊳ high-precision photometry by telescope defocusing (Southworth et al., 2015a)⊳ nearby star from lucky imaging (Wöllert & Brandner, 2015)⊳ Rossiter–McLaughlin effect from AAT–UCLES (Addison et al., 2016)⊳ anomalous transmission spectrum (Southworth & Evans, 2016)⊳ near-infrared emission spectrum with HST–WFC3 (Cartier et al., 2017)⊳ strong Na and K absorption from Gemini–GMOS (Lendl et al., 2017a)⊳ chromospheric activity, mass loss, and star–planet interaction (Staab et al., 2017)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳ high-precision multi-wavelength photometry for 3 transits and 16 secondary eclipses (Delrez et al., 2018b)⊳ global climate and atmospheric composition from HST and Spitzer phase curves (Kreidberg et al., 2018a)⊳ constraints on orbital decay from transit timing (Maciejewski et al., 2018a)⊳

WASP–104 discovery, radial velocity (Smith et al., 2014)⊳ transits observed with SAO 1-m telescope (Valyavin et al., 2015b)⊳ low albedo from K2 short-cadence data (Močnik et al., 2018b)⊳

WASP–105 discovery, radial velocity (Anderson et al., 2017)⊳

WASP–106 discovery, radial velocity (Smith et al., 2014)⊳

WASP–107 ≡ K2–235; discovery, radial velocity (Anderson et al., 2017)⊳ oblique orbit from K2 photometry and star spots (Dai & Winn, 2017)⊳ star spots and rotational period (Močnik et al., 2017b)⊳ He in the planetary tail (Deming, 2018)⊳ H_2O, high-altitude condensates, and possible methane depletion (Kreidberg et al., 2018b)⊳ maps, retrieved composition, and constraints predicted for JWST (Schlawin et al., 2018a)⊳ He in the eroding atmosphere (Spake et al., 2018)⊳

WASP–108 not in NASA; discovery (Anderson et al., 2014a)⊳

WASP–109 not in NASA; discovery (Anderson et al., 2014a)⊳ spin–orbit measurements (Addison et al., 2018)⊳

WASP–110 not in NASA; discovery (Anderson et al., 2014a)⊳

WASP–111 not in NASA; discovery and Rossiter–McLaughlin effect (Anderson et al., 2014a)⊳

WASP–112 not in NASA; discovery (Anderson et al., 2014a)⊳

WASP–113 discovery (Barros et al., 2016)⊳

WASP–114 discovery (Barros et al., 2016)⊳

WASP–115 in preparation

WASP–116 in preparation

WASP–117 long period (10 d) eccentric ($e = 0.3$) orbit; discovery, radial velocity, Rossiter–McLaughlin effect (Lendl et al., 2014)⊳

WASP–118 discovery (Hay et al., 2016)⊳ star spots and rotational period (Močnik et al., 2017b)⊳

WASP–119 discovery (Maxted et al., 2016)⊳

WASP–120 discovery (Turner et al., 2016c)⊳

WASP–121 highly-irradiated hot Jupiter; discovery and Rossiter–McLaughlin effect (Delrez et al., 2016)⊳ detection of H_2O and evidence for TiO/VO from HST–WFC3 transit spectroscopy (Evans et al., 2016b)⊳ distinguishing clouds and haze (Kempton et al., 2017)⊳ HST optical transmission spectrum (Evans et al., 2018)⊳ from thermal dissociation to atmospheric condensation (Parmentier et al., 2018)⊳ population study of gaseous exoplanets (Tsiaras et al., 2018)⊳

WASP–122 see KELT–14

WASP–123 discovery (Turner et al., 2016c)⊳

WASP–124 discovery (Maxted et al., 2016)⊳

WASP–125 in preparation

WASP–126 discovery (Maxted et al., 2016)⊳

WASP–127 low-density sub-Saturn planet; discovery (Lam et al., 2017)⊳ Rayleigh slope at blue wavelengths, TiO and VO at redder, from NOT–ALFOSC (Palle et al., 2017)⊳ haze, Na, K, and Li from GTC transit spectroscopy (Chen et al., 2018b)⊳

WASP–128 not in NASA; transiting brown dwarf in the dynamical-tide regime (Hodžić et al., 2018)⊳

WASP–129 discovery (Maxted et al., 2016)⊳

WASP–130 . . . WASP–132 discovery (Hellier et al., 2017)⊳

WASP–133 discovery (Maxted et al., 2016)⊳

WASP–134 in preparation

WASP–135 discovery, radial velocity, star spin-up (Spake et al., 2016)⊳

WASP–136 discovery (Lam et al., 2017)⊳

WASP–137 in preparation

WASP–138 discovery (Lam et al., 2017)⊳

WASP–139 . . . WASP–142 discovery (Hellier et al., 2017)⊳

WASP–143 in preparation

WASP–144 discovery (Hellier et al., 2019)⊳

WASP–145A discovery (Hellier et al., 2019)⊳

WASP–146 in preparation

WASP–147 discovery (Lendl et al., 2019)⊳

WASP–148. . . WASP–150 in preparation

WASP–151 ≡ K2–134; discovery (Demangeon et al., 2018)⊳ rotational modulation and star spots from K2 (Močnik et al., 2017a)⊳

WASP–152 see K2–29

WASP–153 discovery (Demangeon et al., 2018)⊳

WASP–154 in preparation

WASP–155 in preparation

WASP–156 discovery (Demangeon et al., 2018)⊳

WASP–157 ≡ K2–41; discovery (Močnik et al., 2016a)⊳

WASP–158 discovery (Hellier et al., 2019)⊳

WASP–159 discovery (Hellier et al., 2019)⊳

WASP–160B discovery (Lendl et al., 2019)⊳

WASP–161 discovery (Barkaoui et al., 2019)⊳

WASP–162 discovery (Hellier et al., 2019)⊳

WASP–163 discovery (Barkaoui et al., 2019)⊳

WASP–164 discovery (Lendl et al., 2019)⊳

WASP–165 discovery (Lendl et al., 2019)⊳

WASP–166 in preparation

WASP–167 ≡ KELT–13; retrograde orbit; discovery and Rossiter–McLaughlin effect (Temple et al., 2017)⊳

WASP–168 discovery (Hellier et al., 2019)⊳

WASP–169 in preparation

WASP–170 discovery (Barkaoui et al., 2019)⊳

WASP–171 in preparation

WASP–172 discovery (Hellier et al., 2019)⊳

WASP–173A discovery (Hellier et al., 2019)⊳

WASP–174 discovery (Temple et al., 2018)⊳

Wolf

Wolf–503* discovery (Peterson et al., 2018)⊳

WTS

WTS–1 discovery, radial velocity (Cappetta et al., 2012)⊳

WTS–2 1.0 d planet close to tidal destruction, and predicted orbit decay; discovery (Birkby et al., 2014)⊳ tidal interactions of a Maclaurin spheroid (Braviner & Ogilvie, 2015)

XO

XO–1 discovery, radial velocity (McCullough et al., 2006)⊳ four transits, improved parameters (Holman et al., 2006)⊳ SuperWasp transits from 2004 (Wilson et al., 2006)⊳ secondary eclipse and atmospheric modeling from Spitzer (Machalek et al., 2008)⊳ homogeneous analysis and light curve properties (Southworth, 2008)⊳ limits on transit time variations (Cáceres et al., 2009)⊳ transits (Raetz et al., 2009b)⊳ light curve properties (Southworth, 2009)⊳ transits from HST–NICMOS (Burke et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ terminator region probed with emission spectroscopy (Tinetti et al., 2010)⊳ atmospheric constraints from archival HST–NICMOS (Gibson et al., 2011)⊳ C/O ratio as a characterisation of atmospheres (Madhusudhan, 2012)⊳

H_2O absorption from HST–WFC3 spatial scanning (Deming et al., 2013)⊳ C/O modeling, confirmation of C-rich atmosphere (Moses et al., 2013b)⊳ orbit parameters versus atmospheric species (Miguel & Kaltenegger, 2014)⊳ physical properties and optical-infrared transmission spectrum (Southworth et al., 2018)⊳

XO–2N and **XO–2S** binary star system; discovered as hot Jupiter transiting binary component XO–2N (XO–2N planet b); two further planets orbiting XO–2S (planets b and c) discovered from radial velocity monitoring in 2014; discovery, radial velocity and Galactic origin (Burke et al., 2007)⊳ 6 transits (Fernandez et al., 2009)⊳ secondary eclipse and atmospheric models from Spitzer (Machalek et al., 2009)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ transit from IRTF–MORIS (Gulbis et al., 2011)⊳ Rossiter–McLaughlin effect, possible third planet (Narita et al., 2011)⊳ 3 transits and atmospheric K from GTC–OSIRIS (Sing et al., 2011a)⊳ transits observed with Shandong/Weihai 1-m (Zhang et al., 2011)⊳ limits on H_2O from HST–NICMOS (Crouzet et al., 2012)⊳ tidal effects and spin–orbit alignment from orbit eccentricity (Husnoo et al., 2012)⊳ transits and atmospheric Na from GTC–OSIRIS (Sing et al., 2012)⊳ photometry and new spectroscopy (Southworth, 2012)⊳ 10 transits, limits on transit time variations, dynamical stability from Apache Point–APOSTLE (Kundurthy et al., 2013a)⊳ host star abundances (Teske et al., 2013b)⊳ two further planets orbiting binary component XO–2S from radial velocity with HARPS–N (Desidera et al., 2014)⊳ radial velocity search for massive long-period companion (Knutson et al., 2014c)⊳ effects of photoionisation on transit depth in K (Lavvas et al., 2014)⊳ compilation of light curves and transit timing (Baluev et al., 2015)⊳ abundance differences in the binary components from HARPS–N (Biazzo et al., 2015)⊳ comprehensive analysis with HARPS–N (Damasso et al., 2015a)⊳ abundance differences through early metal depletion or late stage accretion (Ramírez et al., 2015)⊳ abundance differences as a probe of giant planet formation (Teske et al., 2015)⊳ host star variability (Zellem et al., 2015)⊳ photometric observations and transit solutions (Kjurkchieva et al., 2017)⊳ new transit timing observations (Maciejewski et al., 2018b)⊳

XO–3 high mass and large eccentricity; discovery, radial velocity (Johns-Krull et al., 2008)⊳ Rossiter–McLaughlin effect (Hébrard et al., 2008)⊳ modeling of radius (Liu et al., 2008a)⊳ 13 transits and improved radius (Winn et al., 2008d)⊳ Rossiter–McLaughlin effect (Winn et al., 2009e)⊳ secondary eclipse, eccentricity, atmospheric modeling from Spitzer (Machalek et al., 2010)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ thermal phase variations for eccentric orbits (Cowan & Agol, 2011a)⊳ predicted transit duration variations due to apsidal and nodal precession (Damiani & Lanza, 2011)⊳ Rossiter–McLaughlin effect, possible third planet, stellar differential rotation (Hirano et al., 2011a)⊳ tidal effects on radial velocity (Arras et al., 2012)⊳ post-Newtonian effects (Li, 2012)⊳ stellar magnetic field topology (Fares et al., 2013)⊳ 12 secondary eclipses and limits on pericentre precession from Spitzer–IRC (Wong et al., 2014)⊳ re-analysis of Spitzer–IRAC secondary eclipse observations, and comparison of analysis methods (Ingalls et al., 2016)⊳ radial velocity with low-cost échelle spectroscopy at 0.6-m Stará Lesná Observatory, Slovakia (Garai et al., 2017)⊳ new photometry and atmospheric models (Turner et al., 2017)⊳

XO–4 discovery, radial velocity (McCullough et al., 2008)⊳ Rossiter–McLaughlin effect (Narita et al., 2010a)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ photometry and new spectroscopy (Southworth, 2011)⊳ atmospheric constraints from Spitzer–IRAC (Todorov et al., 2012)⊳ 7 new transits from DEMONEX (Villanueva et al., 2016)⊳

XO–5 high Safronov number, high surface gravity; discovery, radial velocity (Burke et al., 2008)⊳ confirmation from spectral bisector (Pál et al., 2009)⊳ stellar proper motion and transit timing (Rafikov, 2009)⊳ homogeneous analysis and light curve properties (Southworth, 2010)⊳ infrared excess suggesting debris disk from WISE (Krivov et al., 2011)⊳ transits and system parameters (Maciejewski et al., 2011d)⊳ revised properties (Smith, 2015)⊳ new observations and transit solutions (Kjurkchieva et al., 2018)⊳

XO–6 hot Jupiter on an oblique orbit around a fast-rotating F star; discovery (Crouzet et al., 2017)⊳

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Appendix E. Lensing exoplanets

This (updated) appendix includes objects appearing in the online NASA Exoplanet Archive as of 31 December 2018. Objects indicated * are additions since publication of the Second Edition (itself complete to end 2017).

These notes list some key attributes of the system to underline its particular interest, give some indication of the attention the object has received (through the length of the bibliography), and provide a concise note on each paper to serve as a guide to the literature and a narrative of the progress in understanding the system. It makes no claim for completeness, and CDS–SIMBAD should be consulted for more details.

It includes only cross-identifications which are relevant in context, e.g., as used in the early discovery literature. CDS–SIMBAD or the NASA Exoplanet Archive should be consulted for other aliases. If a different alias was used in the NASA Exoplanet Archive, this is explicitly noted.

The electronic version includes three classes of hyperlink: the object identifier (in bold) is linked to the host star page of the NASA Exoplanet Archive (it will be invalid if their syntax changes); each citation is linked to the bibliography; and the ⊳ icon following the citation links to the relevant ADS page.

Ordering is by the designated system/planet name, generally related to the event occurrence. The discovery reference can be some years following the event.

Notes on individual systems

MOA identifiers

MOA–2007–BLG–192L inclusion of parallax and finite source effects, and VLT–NACO imaging (Bennett et al., 2008)⊳ photometric alignment of multi-site microlensing light curves (Gould et al., 2010)⊳ detection of light from host star with VLT–NACO (Kubas et al., 2012)⊳

MOA–2007–BLG–197L not in NASA Exoplanet Archive; brown dwarf companion in the brown dwarf desert; discovery (Ranc et al., 2015)⊳

MOA–2007–BLG–400L $A_{max} \sim 600$ (Dong et al., 2009a)⊳

MOA–2008–BLG–310L $D_L \gtrsim 6$ kpc implying the first planet found within the Galactic bulge (Janczak et al., 2010)⊳ 2-epoch HST observations show that the star blended with the source is not the lens star (Bhattacharya et al., 2017)⊳

MOA–2008–BLG–379L faint source star crossing the large resonant caustic (Suzuki et al., 2014)⊳

MOA–2009–BLG–266L system masses from microlens parallax light curve distortion due to orbital motion of Earth and EPOXI satellite (Muraki et al., 2011)⊳

MOA–2009–BLG–319L discovered from MOA–II survey monitoring, with identification as a high-magnification event 24 h prior to its peak (Miyake et al., 2011)⊳

MOA–2009–BLG–387L M star host with pronounced deviations over 12 d with mass from Earth orbital motion (Batista et al., 2011)⊳

MOA–2010–BLG–073L long event crossing time, $t_E = 44.3$ d, allowing detection of orbital motion (Street et al., 2013) ⊳

MOA–2010–BLG–117L the first planetary microlensing event ($M_p = 0.5M_J$, $M_\star = 0.6M_\odot$) with a binary source star (Bennett et al., 2018b)⊳

MOA–2010–BLG–328L sub-Neptune-mass planet orbiting a very late M dwarf (Furusawa et al., 2013) ⊳

MOA–2010–BLG–353L Saturn-mass planet orbiting an M dwarf (Rattenbury et al., 2015)⊳

MOA–2010–BLG–477L high-magnification event modeled with Bayesian priors on Galactic model and planet orbit (Bachelet et al., 2012)⊳

MOA–2011–BLG–028L Neptune-mass planet orbiting a $0.8M_\odot$ star in the Galactic bulge (Skowron et al., 2016)⊳

MOA–2011–BLG–262L first free-floating exoplanet–exomoon candidate (Bennett et al., 2014)⊳ determination of source proper motion (Skowron et al., 2014)⊳

MOA–2011–BLG–291L* planetary microlensing event with an unusually red source star (Bennett et al., 2018a)⊳

MOA–2011–BLG–293L first lensing planet based on second-generation survey (Yee et al., 2012)⊳ Keck adaptive optics placing planet in habitable zone (Batista et al., 2014)⊳

MOA–2011–BLG–322L first microlensing planet based solely on second-generation survey data (Shvartzvald et al., 2014)⊳

MOA–2012–BLG–006L planet or brown dwarf mass companion on a wide orbit (Poleski et al., 2017)⊳

MOA–2012–BLG–505L super-Earth-mass planet probably in the Galactic bulge (Nagakane et al., 2017)⊳

MOA–2013–BLG–605L Neptune or super-Earth planet in a Neptune-like orbit (Sumi et al., 2016)⊳

MOA–2015–BLG–337L* system with low-mass brown dwarf/planet boundary host, or brown dwarf binary (Miyazaki et al., 2018)⊳

MOA–2016–BLG–227L large planet/host mass ratio, located near to K2 Campaign 9 (microlensing) field, observed with Keck AO imaging (Koshimoto et al., 2017a)⊳

MOA–2016–BLG–319L* planet with rare minor-image perturbation degeneracy in determining planet parameters (Han et al., 2018a)⊳

MOA–bin–1L wide separation planet, found as by-product of a search for short time scale single lens events due to free-floating planets (Bennett et al., 2012)⊳

OGLE identifiers

OGLE–2003–BLG–235L first lensing planet (Bond et al., 2004)⊳ HST identification (Bennett et al., 2006)⊳ retrospective (Bond, 2012)⊳

OGLE–2005–BLG–071L second lensing planet, and first high-magnification event (Udalski et al., 2005)⊳ HST astrometry and photometry (Dong et al., 2009b)⊳

OGLE–2005–BLG–169L extremely high-magnification event, $A \sim 800$ (Gould et al., 2006)⊳ characterisation of the resonant caustic (Chung, 2009)⊳ HST confirmation of proper motion (Bennett et al., 2015) ⊳

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OGLE–2005–BLG–390L low-mass planet (Beaulieu et al., 2006)⊳ inferences on surface properties (Ehrenreich et al., 2006)⊳ limits on companions (Kubas et al., 2008)⊳

OGLE–2006–BLG–109L first two-planet lensing system, with orbital motion of the outer planet (Gaudi et al., 2008)⊳ habitability (Malhotra & Minton, 2008)⊳ formation and dynamical stability (Wang et al., 2009)⊳ improved parameters and orbit analysis (Bennett et al., 2010)⊳ terrestrial planet formation in inclined systems (Jin & Ji, 2011)⊳ mean motion resonances and migration (Wang, 2011)⊳ formation and habitability (Wang & Zhou, 2011)⊳

OGLE–2007–BLG–349LAB first circumbinary planet microlensing event, $80M_\oplus$, orbiting a pair of M dwarfs with masses $0.4M_\odot$ and $0.3M_\odot$ (Bennett et al., 2016)⊳

OGLE–2007–BLG–368L Neptune-mass planet, and frequency constraints beyond the snow line (Sumi et al., 2010)⊳

OGLE–2008–BLG–092L binary lens with circumprimary planet (Poleski et al., 2014a)⊳

OGLE–2008–BLG–355L $4.6M_\mathrm{J}$ planet at a projected 1.7 au from a low-mass star (Koshimoto et al., 2014)⊳

OGLE–2011–BLG–173L* evidence for a massive ice giant desert at wide separation (Poleski et al., 2018)⊳

OGLE–2011–BLG–251L planet orbiting M dwarf host beyond the snow line (Kains et al., 2013)⊳

OGLE–2011–BLG–265L $0.6M_\mathrm{J}$ planet orbiting M dwarf host beyond the snow line, with prospects for future follow-up (Skowron et al., 2015)⊳

OGLE–2012–BLG–026L second two-planet system: two Jovian mass planets beyond the snow line (Han et al., 2013b)⊳ revised event model based on Keck/Subaru imaging (Beaulieu et al., 2016)⊳

OGLE–2012–BLG–358L $1.9M_\mathrm{J}$ planet orbiting a field brown dwarf (Han et al., 2013a)⊳

OGLE–2012–BLG–406L $3.9M_\mathrm{J}$ mass planet beyond the snow line (Poleski et al., 2014b)⊳ re-analysis including parallax and lens orbital motion (Tsapras et al., 2014)⊳

OGLE–2012–BLG–563L Saturn-mass planet around an M dwarf; mass constrained by Subaru adaptive optics imaging (Fukui et al., 2015)⊳

OGLE–2012–BLG–724L short-duration event; Saturn-mass planet around an M dwarf (Hirao et al., 2016)⊳

OGLE–2012–BLG–950L $35M_\oplus$ planet; long-term distortion in the MOA and OGLE light curve attributed to microlens parallax; planet mass estimated from parallax and high-resolution Keck AO flux (Koshimoto et al., 2017b)⊳ planet mass estimated from HST and Keck–AO (Bhattacharya et al., 2018)⊳

OGLE–2013–BLG–102L planet around low-magnification binary lens of $0.1M_\odot$ and $0.01M_\odot$ separated by 0.8 au (Jung et al., 2015)⊳

OGLE–2013–BLG–132L Saturn-mass planet orbiting an M-dwarf, covered with high cadence by OGLE and MOA (Mróz et al., 2017b)⊳

OGLE–2013–BLG–341LB $2M_\oplus$ circumprimary planet, binary separation ∼15 au (Gould et al., 2014)⊳

OGLE–2013–BLG–446L not in NASA Exoplanet Archive; high-magnification event attributed to red noise (Bachelet et al., 2015)⊳

OGLE–2013–BLG–723L not in NASA Exoplanet Archive; Venus-mass planet orbiting brown dwarf (Udalski et al., 2015a)⊳ non-planetary interpretation (Han et al., 2016a)⊳

OGLE–2013–BLG–1721L Saturn-mass planet orbiting an M-dwarf, covered with high cadence by OGLE and MOA (Mróz et al., 2017b)⊳

OGLE–2013–BLG–1761L massive planet around an M/K dwarf; discovery (Hirao et al., 2017)⊳

OGLE–2014–BLG–124L planet in the near- to mid-disk, and microlens parallax from Spitzer (first space-based microlensing parallax) (Udalski et al., 2015b)⊳ sensitivity analysis for simultaneous observations from space and ground (Zhu et al., 2015)⊳

OGLE–2014–BLG–676L cold gas giant (Rattenbury et al., 2017)⊳

OGLE–2014–BLG–1722L* two-planet system in a low-magnification event (Suzuki et al., 2018)⊳

OGLE–2014–BLG–1760L $0.5M_\mathrm{J}$ planet, with high relative proper motion (Bhattacharya et al., 2016)⊳

OGLE–2015–BLG–051L ≡ KMT–2015–BLG–048; $0.7M_\mathrm{J}$ orbiting M dwarf (Han et al., 2016b)⊳

OGLE–2015–BLG–954L $4M_\mathrm{J}$ planet orbiting a relatively nearby (0.6 kpc) M dwarf; detected by 2 of the 3 KMTNet telescopes during commissioning (Shin et al., 2016)⊳ MOA data covering the caustic exit, finite source effect and lens–source relative motion (Bennett et al., 2017)⊳

OGLE–2015–BLG–966L cold Neptune planet in the near- to mid-disk, and (second) microlens parallax from Spitzer (Street et al., 2016)⊳

OGLE–2015–BLG–1459L* not a confirmed planet, and not in NASA Exoplanet Archive; various possible solutions include a planetary mass companion (Hwang et al., 2018c)⊳

OGLE–2016–BLG–263L discovered as a 'repeating event', in which the companion produced its own single-mass light curve after the event produced by the primary had ended (Han et al., 2017a)⊳

OGLE–2016–BLG–596L not in NASA Exoplanet Archive; high mass ratio planet from a high-magnification event; (Mróz et al., 2017a)⊳

OGLE–2016–BLG–613L planetary companion to a binary lens, with separate resolution of lens and source expected around 2024; discovery (Han et al., 2017b)⊳

OGLE–2016–BLG–1190L massive planet ($13.4M_\mathrm{J}$), probably in the Galactic bulge/bar; dense coverage from OGLE, MOA, KMTNet, with K2 campaign 9 data; discovery (Ryu et al., 2018)⊳

OGLE–2016–BLG–1195L lowest mass planet found by microlensing; planet orbits an ultracool dwarf (Bond et al., 2017)⊳ KMTNet with Spitzer yield $M_\mathrm{p} = 1.4 \pm 0.3M_\oplus$ (Shvartzvald et al., 2017)⊳

OGLE–2016–BLG–1540 not in NASA Exoplanet Archive; candidate free-floating planet of Neptune mass, with mass constrained by the ultra-short duration ($t_\mathrm{E} = 0.320 \pm 0.003$ d), combined with a measured angular Einstein ring size (Mróz et al., 2018)⊳

OGLE–2017–BLG–173L low mass ratio planet, with event arising from a (large) bright source passing over and enveloping the planetary caustic, termed a 'Hollywood' event; discovery (Hwang et al., 2018d)⊳

OGLE–2017–BLG–373L* Jovian planet with accidental ('caustic-chirality') degeneracy due to data gap (Skowron et al., 2018)⊳

OGLE–2017–BLG–482L* super-Earth orbiting a low-mass host star (Han et al., 2018b)⊳

OGLE–2017–BLG–1140L* Spitzer and ground-based data demonstrate a Jovian planet orbiting an M dwarf in the foreground of the lensed Galactic-bar source star (Calchi Novati et al., 2018)⊳

OGLE–2017–BLG–1434L* eighth lensing planet with $q < 1 \times 10^{-4}$, with V/V_max test, confirms mass function turnover (Udalski et al., 2018)⊳

OGLE–2017–BLG–1522L* giant planet around a brown dwarf located in the Galactic Bulge (Jung et al., 2018b)⊳

Other identifiers

KMT–2016–BLG–212L* not a confirmed planet, and not in NASA Exoplanet Archive; short, incompletely covered anomaly, possibly consistent with planetary mass companion (Hwang et al., 2018b)⊳

KMT–2016–BLG–1397L* KMTNet-only discovery of a microlens giant planet (Zang et al., 2018)⊳

KMT–2016–BLG–1820L* brief anomaly indicates very low mass primary (Jung et al., 2018a)⊳

KMT–2016–BLG–2142L* brief anomaly indicates very low mass primary (Jung et al., 2018a)⊳

TCP J05074264+2447555L* bright microlensing event with super-Earth planet towards Taurus; discovered from variable star monitoring with Slovak/Crimea stations (Nucita et al., 2018)⊳

UKIRT–2017–BLG–001L infrared high-extinction event in the Galactic bulge; discovery (Shvartzvald et al., 2018)⊳

Appendix F. Imaging exoplanets

This (updated) appendix includes objects appearing in the online NASA Exoplanet Archive as of 31 December 2018, along with a small number of other candidates or retracted systems.

These notes list some key attributes of the system to underline its particular interest, give some indication of the attention the object has received (through the length of the bibliography), and provide a concise note on each paper to serve as a guide to the literature and a narrative of the progress in understanding the system. It makes no claim for completeness, and CDS–SIMBAD should be consulted for more details.

It includes only cross-identifications which are relevant in context, e.g., as used in the early discovery literature. CDS–SIMBAD or the NASA Exoplanet Archive should be consulted for other aliases. If a different alias was used in the NASA archive, this is explicitly noted.

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Ordering is by object name and, for Bayer–Flamsteed designations, by constellation; then by year/first author.

Notes on individual systems

Star names

Fomalhaut nearby (7.7 pc) star with cold dust disk; object predicted from disk morphology; observations over 1.73 yr show orbital motion; planetary nature continues to be debated as a consequence of the eccentric disk structure, and non-detection in the infrared; dust clumps in the debris disk (Wyatt & Dent, 2002)⊳ sub-mm observations of an asymmetric disk (Holland et al., 2003)⊳ debris disk observed with Spitzer (Stapelfeldt et al., 2004)⊳ **2005:** planetary system proposed to explain the debris disk structure (Kalas et al., 2005)⊳ predictions for a planet lying just inside the eccentric ring (Quillen, 2006)⊳ planet detected with HST–ACS (Kalas et al., 2008)⊳ interferometric detection of hot dust with VLTI–VINCI (Absil et al., 2009)⊳ constraints on planet mass from disk morphology (Chiang et al., 2009)⊳ long-range outward migration (Crida et al., 2009)⊳ possible formation by gravitational instability (Dodson-Robinson et al., 2009)⊳ spin–orbit alignment from optical long baseline interferometry(Le Bouquin et al., 2009)⊳ Spitzer–IRAC limits on planetary companions (Marengo et al., 2009)⊳ planet formation constraints from gravitational instability (Nero & Bjorkman, 2009)⊳ collisional modeling in dusty debris disks (Stark & Kuchner, 2009)⊳ **2010:** lunar phase of dust grains (Min et al., 2010)⊳ imaging limits from VLTI–PIONIER (Absil et al., 2011)⊳ possible formation by gravitational instability (Boss, 2011)⊳ Herschel images indicating an extrasolar Kuiper belt at the height of its dynamical activity (Acke et al., 2012)⊳ high-resolution ALMA observations (Boley et al., 2012)⊳ Subaru–IRCS and archival HST–ACS characterisation (Currie et al., 2012a)⊳ non-detection in the infrared (Janson et al., 2012)⊳ age and binarity of host star (Mamajek, 2012)⊳ constraints on collisional models of planetesimals debris disk from 7 mm emission (Ricci et al., 2012)⊳ Keck–NIRC2 search for thermal emission from planetary companions (Currie et al., 2013b)⊳ independent analysis of HST archival data (Galicher et al., 2013)⊳ VLT–NACO coronagraphic observations (Kenworthy et al., 2013)⊳ HST–STIS coronagraphic imaging (Kalas et al., 2013)⊳ interferometric study with VLTI–VINCI (Lebreton et al., 2013)⊳ hydrodynamical models can replicate sharp eccentric rings in debris disk without invoking planets (Lyra & Kuchner, 2013)⊳ Fomalhaut C (Mamajek et al., 2013)⊳ Keck null-interferometry (Mennesson et al., 2013)⊳ asteroid belts (Su et al., 2013)⊳ planet orbit and dynamical effects on outer dust belt (Beust et al., 2014)⊳ models of impacts, captures, and collisional cascades to account for the bright dust cloud (Kenyon et al., 2014)⊳ discovery of Fomalhaut C debris disk (Kennedy et al., 2014)⊳ coronagraphic imaging analysis (Meshkat et al., 2014)⊳ dynamical consequences of the planet's orbit (Tamayo, 2014)⊳ **2015:** constraints on gas content (Cataldi et al., 2015)⊳ dynamical history (Faramaz et al., 2015)⊳ high-contrast Spitzer imaging (Janson et al., 2015)⊳ collisional cascade models (Kenyon & Bromley, 2015)⊳ interpretation as dust cloud produced by disk planetesimal collisions (Lawler et al., 2015) ⊳ upper limits to the CO mass (Matrà et al., 2015)⊳ explanation as a background neutron star (Neuhäuser et al., 2015)⊳ gap clearing by planets (Nesvold & Kuchner, 2015b)⊳ orbital fitting of imaged planetary companions with high eccentricities and unbound orbits (Beust et al., 2016)⊳ detection limits for debris disks using VLT sparse aperture masking (Gauchet et al., 2016)⊳ apocentre glow in eccentric debris disks (Pan et al., 2016)⊳ inner debris disk structure from ALMA (Su et al., 2016)⊳ ALMA 1.3 mm observations of the dust emission from the complete outer debris disk (MacGregor et al., 2017a)⊳ ALMA CO J = 2–1 emission from the cometary belt (Matrà et al., 2017b)⊳ foreground neutron star hypothesis constrained by Chandra X-ray limits (Poppenhaeger et al., 2017)⊳ 1.3 mm ALMA observations of the debris disk (White et al., 2017)⊳ gap clearing by planet's sweeping secular resonance (Zheng et al., 2017)⊳ 'Cooper pair' modeling of the stellar triple system (Feng & Jones, 2018b)⊳ dust belt structure modeled with the inclusion of nearby stellar companions (Kaib et al., 2018)⊳

Constellation identifiers

κ And super-Jupiter around late B-type star, from Subaru–HiCIAO SEEDS (Carson et al., 2013)⊳ confirmed from common proper motion; $\Delta\theta$ = 1.1 arcsec; constraints on the companion mass, system age, and further multiplicity (Hinkley et al., 2013)⊳ characterisation from high-contrast Keck and LBTI observations (Bonnefoy et al., 2014a)⊳ age of host star from interferometry (Jones et al., 2016a)⊳ H_2O abundance from infrared spectroscopy (Todorov et al., 2016)⊳ SCExAO/CHARIS near-infrared imaging, spectroscopy, and modeling imply a young super-Jovian companion(Currie et al., 2018)⊳

CT Cha common proper motion companion confirmed by VLT–NACO from T Tauri survey in the Chamaeleon star-forming region (Schmidt et al., 2008)⊳ observations with VLT–NACO (Schmidt et al., 2009)⊳

51 Eri young Jovian planet detected with Gemini–GPI (Macintosh et al., 2015)⊳ astrometric confirmation and preliminary orbital parameters from GPI (De Rosa et al., 2015)⊳ combined imaging, astrometry and radial velocity constraints (Montet et al., 2015a)⊳ atmospheric convection, quenching, and derived composition (Moses et al., 2016)⊳ photolytic hazes in the atmosphere (Zahnle et al., 2016)⊳ fast orbit computation (Blunt et al., 2017)⊳ 1–5 μm Gemini–GPI spectrophotometry favours cold-start core accretion with core mass $15-127M_{\oplus}$

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(Rajan et al., 2017)▷ spectral and atmospheric characterisation with VLT–SPHERE (Samland et al., 2017)▷

GQ Lup common proper motion companion confirmed by VLT–NACO from T Tauri survey in the Lupus star-forming region (Neuhäuser et al., 2005)▷ $\Delta\theta = 0.7$ arcsec, $\Delta m = 6$ mag comoving confirmation from VLT–NACO (Guenther et al., 2005)▷ visible and near-infrared photometry (Marois et al., 2007)▷ high-contrast characterisation from Keck–OSIRIS integral field spectroscopy (McElwain et al., 2007)▷ near-infrared integral-field spectroscopy (Seifahrt et al., 2007)▷ astrometric and photometric monitoring (Neuhäuser et al., 2008)▷ mm dust emission (Dai et al., 2010)▷ Herschel–PACS spectroscopy suggesting crystalline H_2O-ice and silicates (McClure et al., 2012)▷ astrometric follow-up with VLT–NACO and HST (Ginski et al., 2014)▷ slow spin and orbital configuration (Schwarz et al., 2016)▷ limits on circumplanetary disk from ALMA CO observations (MacGregor et al., 2017b)▷ confirmation from Subaru–SEEDS (Uyama et al., 2017)▷ disk structure from ALMA and MagAO (Wu et al., 2017)▷

HN Peg T dwarf companion detected in a survey of nearby stars using Spitzer–IRAC (Luhman et al., 2007)▷

AB Pic companion of planet/brown dwarf mass from deep imaging of young (L dwarf) member of Tucana–Horologium with VLT–NACO (Chauvin et al., 2005b)▷ $\Delta\theta = 5.5$ arcsec; near-infrared integral-field spectroscopy with VLT– SINFONI (Bonnefoy et al., 2010)▷

β Pic planet in ∼ 20-yr orbit at 8–15 au; only a selection of the papers published before the planet confirmation in 2009 are included here: discovery of the circumstellar disk (Smith & Terrile, 1984)▷ comet-like bodies in the protoplanetary disk (Beust et al., 1994)▷ planet on inclined orbit can explain the warped debris disk (Mouillet et al., 1997)▷ rings in the planetesimal disk (Kalas et al., 2000)▷ inner disk rings (Wahhaj et al., 2003)▷ early extrasolar planetary system revealed by planetesimal belts (Okamoto et al., 2004)▷ evidence for comet-like bodies (Roberge et al., 2006)▷ evidence for planets (Freistetter et al., 2007)▷ **2009:** planet detected from imaging of the dusty disk using VLT–NACO (Lagrange et al., 2009a)▷ dust distribution (Ahmic et al., 2009)▷ fine structure from VLT–NACO (Boccaletti et al., 2009)▷ orbital constraints from Keck AO (Fitzgerald et al., 2009)▷ planetary transit explanation for the photometric variations observed in November 1981 (Lecavelier des Etangs & Vidal-Madjar, 2009)▷ deep imaging and orbit constraints (Lagrange et al., 2009b)▷ deep near-infrared interferometric search for low-mass companions (Absil et al., 2010)▷ **2010:** detectability assessment with GPI (Kataria & Simon, 2010)▷ confirmation from high-contrast high-spatial resolution near-infrared images with VLT–NACO (Lagrange et al., 2010)▷ 4 μm imaging from VLT–NACO apodising phase plate (Quanz et al., 2010)▷ **2011:** high angular resolution detection at 2.2 μm with VLT–NACO (Bonnefoy et al., 2011)▷ gas-braking (Brandeker, 2011)▷ 5 μm imaging and evidence for a misalignment between the planet and the warped inner disk (Currie et al., 2011b)▷ misalignment and the warped inner disk (Dawson et al., 2011)▷ ro-vibrational CO detection (Troutman et al., 2011)▷ 1.3-mm imaging with the Submillimeter Array (Wilner et al., 2011)▷ **2012:** orbit characterisation (Chauvin et al., 2012)▷ hot circumstellar material imaged with VLT–PIONIER (Defrère et al., 2012)▷ planet constraints from HARPS (Lagrange et al., 2012b)▷ planet position with respect to the debris disk (Lagrange et al., 2012a)▷ mineralogy and structure of the inner debris disk (Li et al., 2012)▷ VLT imaging of the gas disk (Nilsson et al., 2012)▷ background galaxy (Regibo et al., 2012)▷ **2013:** companion searches to 2 au with VLT–NACO (Absil et al., 2013)▷ independent imaging confirmation with Gemini–NICI (Boccaletti et al., 2013)▷ near-infrared energy distribution (Bonnefoy et al., 2013)▷ VLT–Gemini atmospheric study (Currie et al., 2013a)▷ unusual gas composition in the disk (Xie et al., 2013)▷ **2014:** physical and orbital properties (Bonnefoy et al., 2014b)▷ disk asymmetry attributed to giant impacts (Jackson et al., 2014)▷ shape, internal structure and gravity (Kong et al., 2014)▷ two families of exocomets (Kiefer et al., 2014)▷ deep imaging of the innermost disk (Milli et al., 2014)▷ Magellan AO observations (Males et al., 2014)▷ orbit from Gemini–NICI (Nielsen et al., 2014)▷ rotational broadening of 25 km s^{-1} indicates rapid planetary spin rate (Snellen et al., 2014)▷ **2015:** atmospheric model from SPHERE observations (Baudino et al., 2015)▷ H-band spectrum (Chilcote et al., 2015)▷ inner disk in polarised light (Millar-Blanchaer et al., 2015)▷ Magellan AO observations (Morzinski et al., 2015)▷ model of colliding planetesimals (Nesvold & Kuchner, 2015a)▷ gap clearing by planets (Nesvold & Kuchner, 2015b)▷ **2016:** dust model based on imaging with HST–STIS, HST–WFC3, Spitzer–MIPS, Herschel–PACS, and ALMA (Ballering et al., 2016)▷ detection limits for debris disks using sparse aperture masking at the VLT (Gauchet et al., 2016)▷ self-consistent gas disk model (Kral et al., 2016)▷ planetary orbit (Lecavelier des Etangs & Vidal-Madjar, 2016)▷ orbit and (Hill sphere) transit prospects (Wang et al., 2016)▷ exocomet circumstellar Fe I absorption (Welsh & Montgomery, 2016)▷ **2017:** 1–2.4 μm spectrum with GPI (Chilcote et al., 2017)▷ detection of [C I] emission with ALMA (Higuchi et al., 2017)▷ exocomet flux and CO/CO_2 ice abundance from ALMA CO observations (Matrà et al., 2017a)▷ 31 δ Scuti pulsation frequencies (28 new) from Antarctic ATSEP observations (Mékarnia et al., 2017)▷ bRing observatory dedicated to monitoring the Hill sphere transit (Stuik et al., 2017)▷ physical properties of the neutral Fe I gas from 1700 HARPS spectra from 2003–15 (Vidal-Madjar et al., 2017)▷ HI Ly-α detected in gas disk from HST–COS (Wilson et al., 2017)▷ **2018:** resolved C I disk emission from ALMA (Cataldi et al., 2018)▷ VLT–SINFONI integral-field spectroscopy yields molecular (CO, H_2O) system maps (Hoeijmakers et al., 2018b)▷ accelerating coma absorption during transits from HARPS (Kennedy, 2018)▷ constraints on other giant planets from 2000 HARPS spectra over 13 yr, and NaCo images 2003–2016 (Lagrange et al., 2018)▷ transit constraints from BRITE (Lous et al., 2018)▷ exo-ring environment revealed by HST–STIS imaging (Schneider et al., 2018)▷ host star astrometric motion from Hipparcos–Gaia yields $11 M_{\rm p} = \pm 2 M_{\rm J}$ (Snellen & Brown, 2018)▷

GU Psc wide planetary-mass companion to a young M3 star, discovered from GMOS spectroscopy with Gemini–S; confirmed from CFT–WIRCam near-infrared imaging (Naud et al., 2014)▷ search for photometric variability with CFHT–WIRCam (Naud et al., 2017)▷

DH Tau discovered from near-infrared coronagraphic observations of the classical T Tauri star with Subaru–CIAO (Itoh et al., 2005)▷ $\Delta\theta =$ 2.3 arcsec; mid-infrared observations of the transition disk (Gräfe et al., 2011)▷ VLT–SINFONI spectroscopy (Patience et al., 2012)▷ astrometric follow-up with VLT–NACO and HST (Ginski et al., 2014)▷ planetary accretion rates (Zhou et al., 2014c)▷ limit on circumplanetary disk mask from IRAM–NOEMA (Wolff et al., 2017)▷

FU Tau pair of young brown dwarfs in the Taurus star-forming region discovered from Spitzer–IRAC (Luhman et al., 2009)▷ $\Delta\theta = 5.7$ arcsec; molecular outflow (Monin et al., 2013)▷

Main catalogues

GJ 504 cold Jovian planet around Sun-like star from Subaru–HiCIAO imaging (Kuzuhara et al., 2013)▷ direct imaging detection of CH_4 with Subaru–HiCIAO (Janson et al., 2013)▷ spectral energy distribution models from LBTI–LEECH observations (Skemer et al., 2016)▷ estimated lightning flash densities (Hodosán et al., 2016a)▷ chemical composition and age of 2.5 Gyr (D'Orazi et al., 2017)▷ combining interferometric, radial velocity, and high contrast imaging data (Bonnefoy et al., 2018)▷

HD 95086 4–5 Jupiter-mass planet discovered from direct imaging with VLT–NACO (Rameau et al., 2013b)▷ confirmation from Gemini–NICI H-band observations (Meshkat et al., 2013)▷ confirmation by direct imaging with VLT–NACO (Rameau et al., 2013a)▷ detection and characterisation with Gemini–GPI (Galicher et al., 2014)▷ debris distribution and constraints on multi-planet architectures (Su et al., 2015)▷ 1.5–2.2 μm spectral characterisation from GPI (De Rosa et al., 2016)▷ disk geometry from astrometric monitoring with GPI 2013–16 (Rameau et al., 2016)▷ broad disk with sharp boundaries from ALMA 1.3 mm observations (Su et al., 2017b)▷ system characterisation from combined HARPS/VLT–SPHERE (Chauvin et al., 2018)▷ sub-mm ALMA observations show background galaxy projected on the debris disk (Zapata et al., 2018)▷

HD 100546 giant planet at 50 au around Herbig Ae/Be star discovered from direct imaging with VLT–NACO (Quanz et al., 2015)▷ earlier observations of disk structure and evidence for planets: evidence for star-grazing comets or planetesimals from IUE (Grady et al., 1997)▷ resolved circumstellar disk in the thermal infrared (Liu et al., 2003)▷ disk imaged at 3.4 mm (Wilner et al., 2003)▷ inner disk cavity with evidence for young planetary system (Grady et al., 2005)▷ resolving disk rotation, and evidence for a giant planet (Acke & van den Ancker, 2006)▷ inner disk structure (Benisty et al., 2010)▷ polarimetric differential imaging of the disk between 10–140 au with VLT–NACO (Quanz et al., 2011)▷ structure of the planet-forming region (Tatulli et al., 2011)▷ warm gas at 50 au (Goto et al., 2012)▷ young protoplanet candidate embedded in the disk (Quanz et al., 2013)▷ multi-epoch scattered light observations (Avenhaus et al., 2014)▷ near-infrared spectroscopy and further evidence for an orbiting companion (Brittain et al., 2014)⊳ candidate detection with Gemini–NICI and additional (planet-induced) disk structure at small separations (Currie et al., 2014d)⊳ asymmetric disk near the gap (Panić et al., 2014)⊳ resolved imaging with ALMA (Pineda et al., 2014)⊳ two companions suggested from ALMA (Walsh et al., 2014)⊳ high-contrast imaging/integral field spectroscopy/polarimetry with Gemini–GPI, with evidence for multiple accreting planets (Currie et al., 2015)⊳ evidence for sequential planet formation (Pinilla et al., 2015)⊳ hydrodynamic simulations of circumplanetary disk (Perez et al., 2015)⊳ 3.8–4.8 μm observations with VLT–NACO (Quanz et al., 2015)⊳ morphology and evidence for very young planets (Quanz, 2015)⊳ polarised light and infrared observations with VLT–SPHERE show high brightness contrasts and arm-like structures (Garufi et al., 2016)⊳ shocks and spiral disk structures (Lyra et al., 2016)⊳ scattered light mapping of the protoplanetary disk (Stolker et al., 2016)⊳ confirmation of protoplanet candidate and second emission source at 13–14 au from Gemini–GPI (Currie et al., 2017)⊳ complex spiral structure from Gemini–GPI and MagAO (Follette et al., 2017)⊳ luminosity interpreted through models of planetary accretion shock (Marleau et al., 2017)⊳ bar-like structure across the disk gap in Hα polarised light with VLT–SPHERE/ZIMPOL (Mendigutía et al., 2017)⊳ disk emission in Hα from Gemini–GPI and MagAO (Rameau et al., 2017)⊳ ALMA CO emission tracing warp or radial flow within 100 au (Walsh et al., 2017)⊳ ALMA 'shock tracer' SO observations suggest molecular disk wind (Booth et al., 2018)⊳ gap size constraints from mid-infrared observations with MIDI (Jamialahmadi et al., 2018)⊳ high-contrast disk study with VLT–SPHERE (Sissa et al., 2018)⊳

HD 106906 planetary-mass companion orbiting a tight stellar binary at 7 arcsec (650–700 au); discovered with the Magellan Adaptive Optics (MagAO) + Clio2 system (Bailey et al., 2014)⊳ asymmetric disk distribution from HST–ACS (Kalas et al., 2015)⊳ narrow edge-on disk revealed by VLT–SPHERE (Lagrange et al., 2016)⊳ disk structure from MagAO (Wu et al., 2016)⊳ 1.1–2.5 μm spectroscopy with VLT–SINFONI yields mass of $11.9M_J$ (hot start) or $14.0M_J$ (cold start) (Daemgen et al., 2017a)⊳ disk morphology from Lidov–Kozai perturbations (Nesvold et al., 2017)⊳ wide orbit originating from inward migration and binary scattering (Rodet et al., 2017)⊳

HD 131399A not in NASA archive; young $4M_J$ planet in triple-star system, orbiting star A at 50–100 au; claimed discovery with VLT–SPHERE (Wagner et al., 2016)⊳ low-mass stellar companion in a 10-d orbit (Lagrange et al., 2017)⊳ dynamical stability (Funk et al., 2017)⊳ formation of wide-orbit gas giants from inner-disk scattering and orbit circularisation (Higuchi & Ida, 2017)⊳ evidence from Gemini–GPI, VLT–SPHERE, and Keck–NIRC2 that the suggested planet is a background star (Nielsen et al., 2017)⊳ stellar parameters (Przybilla et al., 2017)⊳ stability analysis and prospects for planet ejection (Veras et al., 2017)⊳

HD 203030 young substellar companion near the L/T transition discovered with Hale 5-m PHARO camera (Metchev & Hillenbrand, 2006)⊳ astrometric follow-up with VLT–NACO and HST (Ginski et al., 2014)⊳ low-gravity spectral features and revised age of HD 203030B (Miles-Páez et al., 2017)⊳

HD 206893B not in NASA archive; discovery inside a debris disk by VLT–SPHERE (Milli et al., 2017)⊳ follow-up observations with VLT–SPHERE and others (Delorme et al., 2017)⊳

HIP 65426 $\Delta\theta = 0.8$ arcsec; discovered from the VLT–SPHERE SHINE programme (Chauvin et al., 2017)⊳

HIP 78530 $\Delta\theta = 4.5$ arcsec; discovered from imaging of the Upper Sco association with Gemini–N–NIRI (Lafrenière et al., 2011)⊳ Gemini 0.9–2.45 μm spectroscopy (Lachapelle et al., 2015)⊳

HIP 79462 not in NASA archive; discovery with Subaru–SEEDS (Uyama et al., 2017)⊳

HR 2562 substellar companion to a nearby debris disk system, discovered from imaging with Gemini–GPI (Konopacky et al., 2016b)⊳ VLT–SPHERE astrometric confirmation and orbital analysis of the brown dwarf companion (Maire et al., 2018) spectro-photometric characterisation with VLT–SPHERE (Mesa et al., 2018)

HR 8799 4-planet system; high-contrast imaging with Keck–NIRC2 and Gemini–NIRI revealed objects b,c,d (Marois et al., 2008) ⊳ **2009:** possible formation by gravitational instability (Dodson-Robinson et al., 2009)⊳ H-band image from 2002 observations with Subaru–AO confirming counter-clockwise orbit (Fukagawa et al., 2009)⊳ prospects for future planetary scattering (Goździewski & Migaszewski, 2009)⊳ HST–NICMOS detection of planet b in 1998 (Lafrenière et al., 2009) ⊳ pre-discovery 2007 image with Keck–AO (Metchev et al., 2009)⊳ formation by gravitational instability (Nero & Bjorkman, 2009)⊳ system architecture (Reidemeister et al., 2009)⊳ nature of the debris disk (Su et al., 2009)⊳ **2010:** near-infrared spectroscopy (Bowler et al., 2010)⊳ search for wide companions with Gemini and HST–NICMOS (Close & Males, 2010)⊳ resonances, stability and masses (Fabrycky & Murray-Clay, 2010)⊳ thermal infrared MMT–AO observations (Hinz et al., 2010)⊳ metallicity of the massive protoplanets if formed by gravitational instability (Helled & Bodenheimer, 2010)⊳ spatially-resolved spectroscopy (Janson et al., 2010)⊳ planetesimal belts (Moro-Martín et al., 2010a)⊳ additional inner object (planet e) evident from Keck imaging (Marois et al., 2010)⊳ possible brown dwarf nature of companions (Moro-Martín et al., 2010b)⊳ dynamical simulations (Marshall et al., 2010)⊳ age determination from asteroseismology (Moya et al., 2010a)⊳ λ Boo nature of host star (Moya et al., 2010b)⊳ image of a fourth planet from Keck (Marois et al., 2010)⊳ **2011:** astrometry with VLT–NACO (Bergfors et al., 2011)⊳ atmospheric clouds and chemistry in planet b (Barman et al., 2011a)⊳ possible formation by gravitational instability (Boss, 2011)⊳ Subaru–VLT–MMT study (Currie et al., 2011a)⊳ M-band imaging (Galicher et al., 2011)⊳ constraints on companions inside 10 au (Hinkley et al., 2011)⊳ spatially-resolved sub-mm imaging of the debris disk (Hughes et al., 2011)⊳ model atmospheres (Madhusudhan et al., 2011a)⊳ spatially-resolved sub-mm imaging of the debris disk (Patience et al., 2011)⊳ orbital motion from 1998 HST data, and constraints on inclination, eccentricity, stability (Soummer et al., 2011)⊳ determination of host star inclination from asteroseismology (Wright et al., 2011a)⊳ **2012:** CHARA array host star angular diameter favours planetary masses (Baines et al., 2012)⊳ direct detection and orbital analysis from archival 2005 Keck–NIRC2 data (Currie et al., 2012b)⊳ masses, radii and cloud properties (Marley et al., 2012)⊳ shape of debris disk inner edge from chaotic zone (Mustill & Wyatt, 2012)⊳ LBT adaptive optics imaging (Skemer et al., 2012)⊳ constraints on orbit inclination and age (Sudol & Haghighipour, 2012)⊳ **2013:** LBT observations and detection of planet e in H-band (Esposito et al., 2013)⊳ detection of CO and H_2O absorption (Konopacky et al., 2013)⊳ effects of a planetesimal debris disk on system stability (Moore & Quillen, 2013)⊳ near-infrared spectroscopy (Oppenheimer et al., 2013)⊳ **2014:** deep thermal infrared imaging and constraints on a fifth planet (Currie et al., 2014b)⊳ possible double Laplace mean motion resonances, 1e:2d:4c:8b (Goździewski & Migaszewski, 2014)⊳ Gemini–GPI spectroscopy of planets c and d (Ingraham et al., 2014)⊳ atmospheric analysis (Lee et al., 2014b)⊳ constraints on the initial entropy (Marleau & Cumming, 2014)⊳ resolved imaging of the debris disk with Herschel (Matthews et al., 2014)⊳ LBT and Magellan adaptive optics imaging at 3–5 μm (Skemer et al., 2014)⊳ **2015:** detection of H_2O, CH_4, and CO with Keck–OSIRIS (Barman et al., 2015)⊳ constraints on architecture (Maire et al., 2015)⊳ astrometry and orbital motion (Pueyo et al., 2015)⊳ **2016:** high-cadence high-contrast imaging from VLT–SPHERE first-light (Apai et al., 2016)⊳ physical and chemical properties from VLT–SPHERE first-light (Bonnefoy et al., 2016)⊳ disk modeling from ALMA at 1.34 mm (Booth et al., 2016)⊳ models of the inner debris disk (Contro et al., 2016)⊳ long-term system stability (Götberg et al., 2016)⊳ detection limits for debris disks using sparse aperture masking at the VLT (Gauchet et al., 2016)⊳ limits on the debris disk from HST–STIS (Gerard et al., 2016)⊳ astrometric constraints from Keck–NIRC2 (Konopacky et al., 2016a)⊳ dynamical stability (Morrison & Kratter, 2016)⊳ atmospheric convection, quenching, and derived composition (Moses et al., 2016)⊳ spectrophotometry and astrometry from VLT–SPHERE first-light (Zurlo et al., 2016)⊳ **2017:** image processing using VIP with LBTI–LMIRCam and the vortex coronagraph (Gomez Gonzalez et al., 2017)⊳ atmospheric retrieval for the planets (Lavie et al., 2017b)⊳ mas astrometry with VLT–SPHERE (Wertz et al., 2017)⊳ spectroscopic modeling (Lavie et al., 2017b)⊳ planetary migration as the origin of the 2:1 mean motion resonance (Ramos et al., 2017)⊳ **2018:** updated architectural and dynamical model (Goździewski & Migaszewski, 2018)⊳ KLIP forward modeling based on Gemini–GPI data (Greenbaum et al., 2018)⊳ Keck–OSIRIS molecular mapping yields strong detection of H_2O and CO, but no CH_4 (Petit dit de la Roche et al., 2018)⊳ fifth planet's effect on outer dust belt consistent with ALMA observations (Read et al., 2018)⊳ dynamical constraints from Gemini–GPI (Wang et al., 2018b)⊳ detection of H_2O from planet c with Keck–NIRSPEC (Wang et al., 2018a)⊳

2M J0122–24 young dusty L dwarf companion at the deuterium-burning limit discovered with Keck–NIRC2 (Bowler et al., 2013)⊳ long-slit spectroscopy from VLT–SPHERE (Hinkley et al., 2015)⊳

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2M J0219–39 brown dwarf/planet-mass companion to a Tucana–Horologium M dwarf (Artigau et al., 2015)⊳

2M J0441+23 companion to young brown dwarf in Taurus star-forming region ($\Delta\theta$ = 0.1 arcsec) imaged with HST–WFPC2 and Gemini AO (Todorov et al., 2010b)⊳

2M J1207–39 young nearby brown dwarf companion in TW Hya association discovered from VLT–NACO imaging, 3 epochs over 1 year (Chauvin et al., 2004)⊳ further VLT–NACO observations over 1 year (Chauvin et al., 2005a)⊳ moving cluster distance (Mamajek, 2005)⊳ emission-line variability (Scholz et al., 2005)⊳ HST–NICMOS imaging (Song et al., 2006)⊳ trigonometric parallax and luminosity determination (Biller & Close, 2007)⊳ trigonometric parallax (Gizis et al., 2007)⊳ temperature, mass, and evidence for edge-on disk (Mohanty et al., 2007)⊳ underluminosity as a protoplanet collision afterglow (Mamajek & Meyer, 2007)⊳ disk characterisation (Riaz & Gizis, 2007)⊳ emission-line variability over hours to years (Stelzer et al., 2007)⊳ high-resolution near-infrared spectrum (Patience et al., 2010)⊳ cool, cloudy, CH_4 atmosphere from modeling (Barman et al., 2011b)⊳ evidence against edge-on disk, and thick-cloud explanation for its underluminosity (Skemer et al., 2011)⊳ Herschel–SPIRE observations (Riaz et al., 2012)⊳ LBT and Magellan adaptive optics imaging at 3–5 μm (Skemer et al., 2014)⊳ rotational modulation from HST–WFC3 with a period 10.7 h (Zhou et al., 2016c)⊳ angular rotation of the azimuthal asymmetry observed with HST–STIS attributed to precession (Debes et al., 2017)⊳ ALMA detection of compact disk (Ricci et al., 2017b)⊳

2M J2140+16 discovered from 3-yr of astrometry, spectroscopy, and Keck AO of low-mass field binaries (Konopacky et al., 2010)⊳

2M J2236+47 red planetary-mass companion to the AB Dor moving group candidate (Bowler et al., 2017b)⊳

Other

CFBDSIR J1458 common proper motion companion discovered from Keck–NIRC2 AO imaging, $\Delta\theta$ = 0.1 arcsec (Liu et al., 2011)⊳

CHXR 73 discovered from imaging of the Chamaeleon I star-forming region using HST–ACS, $\Delta\theta$ = 1.3 arcsec (Luhman et al., 2006)⊳

GSC 0621–00 discovered from Hale 5-m AO imaging survey for wide companions to solar-type stars in Upper Scorpius (Ireland et al., 2011)⊳ circumplanetary accretion disk from Keck–OSIRIS (Bowler et al., 2011)⊳ planetary accretion rates (Zhou et al., 2014c)⊳ Gemini 0.9–2.45 μm spectroscopy (Lachapelle et al., 2015)⊳

LkCa 15 2-planet system; $\Delta\theta = 0.07, 0.10, 0.88$ arcsec; located inside a known gap in the protoplanetary disk of a solar analogue, revealed by non-redundant aperture masking interferometry at three epochs with LBT–LMIRCam (Sallum et al., 2015)⊳ preceding and subsequent observations: structure of the protoplanetary disk (Piétu et al., 2007)⊳ search for sub-stellar disk structure (Bonavita et al., 2010)⊳ disk gap and indications of planet formation (Thalmann et al., 2010)⊳ disk structure (Andrews et al., 2011)⊳ sulphur-bearing molecules in the protoplanetary disk (Dutrey et al., 2011)⊳ nature of the transition disk (Isella et al., 2012)⊳ direct-imaging evidence of a likely (proto)planet inside a known gap in the protoplanetary disk from Keck–NIRC2 (Kraus & Ireland, 2012)⊳ disk searches (Isella et al., 2014)⊳ disk structure from Gemini–NIRI (Thalmann et al., 2014)⊳ multiple companions on Keplerian orbits and accretion onto protoplanet b from LBT–LMIRCam (Sallum et al., 2015)⊳ optical imaging polarimetry with VLT–SPHERE–ZIMPOL (Thalmann et al., 2015)⊳ asymmetric disk structures in scattered light with VLT–SPHERE–IRDIS (Thalmann et al., 2016)⊳ luminosity interpreted through models of planetary accretion shock (Marleau et al., 2017)⊳ X-ray heating inferred from Chandra observations (Skinner & Güdel, 2017)⊳ spectro-astrometry with WHT–ISIS reveals extended Hα emission but no accreting planet (Mendigutía et al., 2018)⊳

Oph 11 discovered from imaging of Ophiuchus star-forming clouds with Keck AO and Gemini–N–NIRI (Close et al., 2007)⊳

Ross 458 ≡ DT Vir; discovered from spectroscopy with Magellan–FIRE (Burgasser et al., 2010)⊳ further observations (Burningham et al., 2011)⊳ effect of stellar wind on magnetosphere (Vidotto et al., 2014)⊳

ROXs 12 discovery from Keck–NIRC2 (Kraus et al., 2014)⊳ imaging search for close-in massive bodies responsible for outward scattering (Bryan et al., 2016a)⊳ morphology and spin–orbit misalignment from Gemini–North–NIFS and Keck–OSIRIS (Bowler et al., 2017a)⊳

ROXs 42B companion near the deuterium-burning limit in a young binary star system discovered from various imaging and spectroscopy (Currie et al., 2014c)⊳ independent observations with Keck–NIRC2 (Kraus et al., 2014)⊳ spectroscopic confirmation (Bowler et al., 2014)⊳ atmospheric modeling (Currie et al., 2014a)⊳ high contrast imaging search for close-in massive bodies responsible for outward scattering (Bryan et al., 2016a)⊳ mid-infrared characterisation from Keck–NIRC2 3–5 μm photometry (Daemgen et al., 2017b)⊳ confirmation from Subaru–SEEDS (Uyama et al., 2017)⊳

1RXS J1609–21 member of the Upper Scorpius association, $\Delta\theta$ = 2.2 arcsec; discovered from imaging and spectroscopy with Gemini–N–NIRI near-infrared AO (Lafrenière et al., 2008)⊳ confirmation from astrometry with Gemini–ALTAIR (Lafrenière et al., 2010)⊳ estimate of planet mass of $14 \pm 2 M_{\rm J}$ (Pecaut et al., 2012)⊳ astrometric follow-up with VLT–NACO and HST (Ginski et al., 2014)⊳ possible radio detection with GMRT (Sirothia et al., 2014)⊳ Gemini 0.9–2.45 μm spectroscopy (Lachapelle et al., 2015)⊳

SR 12AB discovered from near-infrared imaging and spectroscopy of a binary T Tauri star in the ρ Oph star-forming region with IRSF–SIRIUS, $\Delta\theta$ = 8.7 arcsec (Kuzuhara et al., 2011)⊳ spectroscopic confirmation (Bowler et al., 2014)⊳

USco CTIO 108 member of the Upper Sco association, $\Delta\theta$ = 4.6 arcsec; discovered from optical and near-infrared photometry and spectroscopy of a brown dwarf with WHT–ACAM (Béjar et al., 2008)⊳ astrometric follow-up with VLT–NACO and HST (Ginski et al., 2014)⊳

VHS J1256–12 brown dwarf triple system; discovered from imaging of a nearby M dwarf with ESA–VISTA–VIRCAM (Gauza et al., 2015)⊳ thermal infrared imaging: clouds and equilibrium C chemistry (Rich et al., 2016)⊳ Magellan adaptive optics imaging (Stone et al., 2016)⊳

WD 0806–661B ≡ GJ 3483; brown dwarf common proper motion companion to white dwarf primary, at $\Delta\theta$ = 130 arcsec; candidate for one of the coldest known brown dwarfs; discovered from multi-epoch Spitzer–IRAC imaging (Luhman et al., 2011)⊳ age, mass and formation mechanism (Rodriguez et al., 2011)⊳ confirmation from Spitzer–IRAC, VLT–HAWK–I, and Magellan–FourStar (Luhman et al., 2012)⊳

WISEP J1217+16 wide companion to nearby brown dwarf discovered from imaging with Keck–NIRC2 (Liu et al., 2012)⊳ resolved spectroscopy, age, and kinematics (Leggett et al., 2014)⊳

Interstellar vagabonds

1I/2017 U1 (Oumuamua) discovery of a red and extremely elongated interstellar asteroid from Pan–STARRS on 2017 October 18 (Meech et al., 2017)⊳ colours, 5:3:1 aspect ratio, and 8.1-h rotation period (Bannister et al., 2017)⊳ pole, pericentre, and nodes (de la Fuente Marcos & de la Fuente Marcos, 2017)⊳ elongated shape attributed to Eikonal abrasion (Domokos et al., 2017)⊳ origin in a nearby young stellar association (Gaidos et al., 2017b)⊳ observations from NOT and WIYN, and predicted population within Neptune's orbit (Jewitt et al., 2017)⊳ rotation period and shape from light curve, with no evidence for coma or tail (Knight et al., 2017)⊳ kinematics and Galactic velocity (Mamajek, 2017)⊳ implications for planetary system formation (Trilling et al., 2017)⊳ distinguishing vagabonds from products of solar system scattering (Wright, 2017)⊳ imaging and spectroscopy, and radar search for meteor activity (Ye et al., 2017)⊳ possibility as macroscopic dark matter (Cyncynates et al., 2017)⊳ tumbling motion indicating violent past (Drahus et al., 2017)⊳ Project Lyra: sending a rendezvous spacecraft (Hein et al., 2017)⊳ Palomar optical spectrum (Masiero, 2017)⊳ **2018:** Galactic orbit and age estimate of 0.20–0.45 Gyr (Almeida-Fernandes & Rocha-Pinto, 2018)⊳ Galactic orbit, and possible past close encounters (Bailer-Jones et al., 2018)⊳ spin, oscillation, nutation, and inferred aspect ratio (Belton et al., 2018)⊳ excess acceleration arising from solar radiation pressure (Bialy & Loeb, 2018)⊳ APO time-resolved colour photometry (Bolin et al., 2018)⊳ as a tidal disruption fragment from a binary star system (Ćuk, 2018)⊳ number density and origin of comparable objects (Do et al., 2018)⊳ tumbling motion and implications for its origin (Drahus et al., 2018)⊳ dynamical history (Dybczyński & Królikowska, 2018)⊳ GBT Breakthrough Listen observations (Enriquez et al., 2018)⊳ as a messenger from the Local Association (Feng & Jones, 2018a)⊳ spectroscopy and thermal modeling (Fitzsimmons et al., 2018)⊳ tumbling rotational state (Fraser et al., 2018)⊳ variability and aspect ratio considered as a debris contact binary (Gaidos, 2018)⊳ review of photometric observations (Hainaut et al., 2018)⊳ rotational dynamics irregular-shape asteroids moving through the interstellar gas (Hoang et al., 2018)⊳ ejection of rocky and icy material from binary star systems (Jackson et al., 2018)⊳ origin as Jacobi ellipsoid of a self-gravitating incompressible liquid (Katz, 2018)⊳ minimal effects of tidal torques during its interstellar passage (Kwiecinski et al., 2018)⊳ density (1.5-2.8 $\mathrm{Mg\,m^{-3}}$) and aspect ratio (6 ± 1:1) from light curve amplitudes (McNeill et al., 2018)⊳ non-gravitational acceleration implies comet-like outgassing (Micheli et al., 2018)⊳ origin from highly anisotropic planetesimal disk of a young nearby star (Moro-Martín, 2018a)⊳ search for OH 18 cm radio emission with the Green Bank Telescope(Park et al., 2018)⊳ Galactic origin and representative object density (Portegies Zwart et al., 2018)⊳ production in tidal disruption events of refractory planetoids by white dwarfs (Rafikov, 2018a)⊳ spin evolution challenges cometary origin (Rafikov, 2018b)⊳ origin as a fragment of comet-like planetesimal from a planet-forming disk (Raymond et al., 2018a)⊳ planetary dynamics and planetesimal formation (Raymond et al., 2018b)⊳ expected arrival rates, impact parameters, velocities, and detection prospects of similar objects (Seligman & Laughlin, 2018)⊳ metal pollution of low-mass Population III stars through accretion of similar objects (Tanikawa et al., 2018)⊳ serendipitous MWA search for narrowband radio signals (Tingay et al., 2018)⊳ Spitzer non-detection and implied composition (Trilling et al., 2018)⊳ assessing the origin of interstellar small bodies (Zuluaga et al., 2018)⊳ backtracing interstellar objects (Zhang, 2018)⊳ six peculiar features (Loeb, 2018)⊳ exo-Oort cloud object ejected through post-main sequence mass loss and stellar encounters (Moro-Martín, 2018b)⊳

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References

Abe L, Gonçalves I, Agabi A, et al., 2013, The secondary eclipses of WASP–19 b as seen by the ASTEP 400 telescope from Antarctica. *A&A*, 553, A49 {44}

Abeysekara AU, Archambault S, Archer A, et al., 2016, A search for brief optical flashes associated with the SETI target KIC–8462852. *ApJ*, 818, L33 {36}

Absil O, Le Bouquin JB, Berger JP, et al., 2011, Searching for faint companions with VLTI–PIONIER. I. Method and first results. *A&A*, 535, A68 {3, 51}

Absil O, Le Bouquin JB, Lebreton J, et al., 2010, Deep near-infrared interferometric search for low-mass companions around β Pic. *A&A*, 520, L2 {52}

Absil O, Mennesson B, Le Bouquin J, et al., 2009, An interferometric study of the Fomalhaut inner debris disk. I. Near-infrared detection of hot dust with VLTI–VINCI. *ApJ*, 704, 150–160 {51}

Absil O, Milli J, Mawet D, et al., 2013, Searching for companions down to 2 au from β Pic using the L′-band AGPM coronagraph on VLT–NACO. *A&A*, 559, L12 {52}

Abubekerov MK, Gostev NY, Cherepashchuk AM, 2010, Light curve analysis for eclipsing systems with exoplanets: the system HD 209458. *Astronomy Reports*, 54, 1105–1124 {20}

—, 2011, Analysis of light curves of eclipsing systems with exoplanets: HD 189733. *Astronomy Reports*, 55, 1051–1073 {18}

Acke B, Min M, Dominik C, et al., 2012, Herschel images of Fomalhaut: an extrasolar Kuiper belt at the height of its dynamical activity. *A&A*, 540, A125 {51}

Acke B, van den Ancker ME, 2006, Resolving the disk rotation of HD 97048 and HD 100546 in the [O I] 630 nm line: evidence for a giant planet orbiting HD 100546. *A&A*, 449, 267–279 {52}

Adamów M, Niedzielski A, Kowalik K, et al., 2018, Tracking Advanced Planetary Systems (TAPAS) with HARPS–N. VI. HD 238914 and TYC 3318–01333–1: two more Li-rich giants with planets. *A&A*, 613, A47 {4, 13, 14}

Adamów M, Niedzielski A, Villaver E, et al., 2012, BD+48 740: Li-overabundant giant star with a planet: a case of recent engulfment? *ApJ*, 754, L15 {4}

Adams AD, Laughlin G, 2018, Reassessing exoplanet light curves with a thermal model. *AJ*, 156, 28 {17, 18, 19, 21, 23, 24, 43, 44, 45}

Adams ER, Jackson B, Endl M, et al., 2017, Ultra-short-period planets in K2 with companions: a double transiting system for EPIC–220674823. *AJ*, 153, 82 {38}

Adams ER, López-Morales M, Elliot JL, et al., 2010a, Lack of transit timing variations of OGLE–TR–111 b: a re-analysis with six new epochs. *ApJ*, 714, 13–24 {39}

—, 2010b, Six high-precision transits of OGLE–TR–113 b. *ApJ*, 721, 1829–1834 {39}

—, 2011a, New light curves of OGLE–TR–56 b: new system parameters and limits on timing variations. *ApJ*, 741, 102 {39}

—, 2011b, Transit timing variation analysis of OGLE–TR–132 b with seven new transits. *ApJ*, 728, 125 {39}

Addison BC, Tinney CG, Wright DJ, et al., 2013, A nearly polar orbit for the extrasolar hot Jupiter WASP–79 b. *ApJ*, 774, L9 {46}

—, 2014, A spin–orbit alignment for the hot Jupiter HATS–3 b. *ApJ*, 792, 112 {26}

—, 2016, Spin–orbit alignment for three transiting hot Jupiters: WASP–103 b, WASP–87 b, and WASP–66 b. *ApJ*, 823, 29 {46, 47}

Addison BC, Wang S, Johnson MC, et al., 2018, Stellar Obliquities and Planetary Alignments (SOPA). I. Spin–orbit measurements of three transiting hot Jupiters: WASP–72 b, WASP–100 b, and WASP–109 b. *AJ*, 156, 197 {46, 47}

Affer L, Micela G, Damasso M, et al., 2016, HADES radial velocity programme with HARPS–N at TNG. I. GJ 3998, an early M-dwarf hosting a system of super-Earths. *A&A*, 593, A117 {6}

Agarwal S, Del Sordo F, Wettlaufer JS, 2017, Exoplanetary detection by multifractal spectral analysis. *AJ*, 153, 12 {19}

Agol E, Cowan NB, Knutson HA, et al., 2010, The climate of HD 189733 b from fourteen transits and eclipses measured by Spitzer. *ApJ*, 721, 1861–1877 {18}

Agúndez M, Parmentier V, Venot O, et al., 2014a, Pseudo 2d chemical model of hot-Jupiter atmospheres: application to HD 209458 b and HD 189733 b. *A&A*, 564, A73 {19, 20}

Agúndez M, Venot O, Iro N, et al., 2012, The impact of atmospheric circulation on the chemistry of the hot Jupiter HD 209458 b. *A&A*, 548, A73 {20}

Agúndez M, Venot O, Selsis F, et al., 2014b, The puzzling chemical composition of the GJ 436 b atmosphere: influence of tidal heating on the chemistry. *ApJ*, 781, 68 {17}

Ahlers JP, Barnes JW, Barnes R, 2015, Spin–orbit misalignment of two-planet-system KOI–89 via gravity darkening. *ApJ*, 814, 67 {35}

Ahmic M, Croll B, Artymowicz P, 2009, Dust distribution in the β Pic circumstellar disks. *ApJ*, 705, 529–542 {52}

Aigrain S, Collier Cameron A, Ollivier M, et al., 2008, Transiting exoplanets from the CoRoT space mission. IV. CoRoT–4 b: a transiting planet in a 9.2-d synchronous orbit. *A&A*, 488, L43–L46 {22}

Aigrain S, Pont F, Zucker S, 2012, A simple method to estimate radial velocity variations due to stellar activity using photometry. *MNRAS*, 419, 3147–3158 {18}

Akiyama E, Momose M, Hayashi H, et al., 2011, Thermal structure of a protoplanetary disk around HD 163296: vertical temperature distribution from CO lines. *PASJ*, 63, 1059–1069 {11}

Alam MK, Nikolov N, López-Morales M, et al., 2018, The HST PanCET Programme: hints of Na I and evidence of a cloudy atmosphere for the inflated hot Jupiter WASP–52 b. *AJ*, 156, 298 {46}

Alberti T, Carbone V, Lepreti F, et al., 2017, Comparative climates of the TRAPPIST–1 planetary system: results from a simple climate-vegetation model. *ApJ*, 844, 19 {40}

Albrecht S, Winn JN, Butler RP, et al., 2012a, A high stellar obliquity in the WASP–7 exoplanetary system. *ApJ*, 744, 189 {42}

Albrecht S, Winn JN, Johnson JA, et al., 2011, Two upper limits on the Rossiter–McLaughlin effect, with differing implications: WASP–1 has a high obliquity and WASP–2 is indeterminate. *ApJ*, 738, 50 {41}

—, 2012b, Obliquities of hot Jupiter host stars: evidence for tidal interactions and primordial misalignments. *ApJ*, 757, 18 {17, 23, 24, 25, 27, 41, 42, 43, 44}

Albrecht S, Winn JN, Marcy GW, et al., 2013, Low stellar obliquities in compact multiplanet systems. *ApJ*, 771, 11 {29, 31}

Alexander RD, Wynn GA, Mohammed H, et al., 2016, Magnetospheres of hot Jupiters: hydrodynamic models and ultraviolet absorption. *MNRAS*, 456, 2766–2778 {21, 43, 44}

Alexoudi X, Mallonn M, von Essen C, et al., 2018, Deciphering the atmosphere of HAT–P–12 b: solving discrepant results. *A&A*, 620, A142 {24}

Ali-Dib M, Lakhlani G, 2018, Possible formation pathways for the low-density Neptune-mass planet HAT–P–26 b. *MNRAS*, 473, 1325–1331 {25}

Ali-Dib M, Mousis O, Petit JM, et al., 2014, Carbon-rich planet formation in a solar composition disk. *ApJ*, 785, 125 {43}

Alibert Y, 2016, Constraining the volatile fraction of planets from transit observations. *A&A*, 591, A79 {16}

Alibert Y, Baraffe I, Benz W, et al., 2006, Formation and structure of the three Neptune-mass planets system around HD 69830. *A&A*, 455, L25–L28 {8}

Allart R, Lovis C, Pino L, et al., 2017, Search for water vapour in the high-resolution transmission spectrum of HD 189733 b in the visible. *A&A*, 606, A144 {19}

Almeida-Fernandes F, Rocha-Pinto HJ, 2018, A kinematical age for the interstellar object Oumuamua. *MNRAS*, 480, 4903–4911 {54}

Almenara JM, Astudillo-Defru N, Bonfils X, et al., 2015a, A HARPS view on K2–3. *A&A*, 581, L7 {37}

Almenara JM, Bouchy F, Gaulme P, et al., 2013, Transiting exoplanets from the CoRoT space mission. XXIV. CoRoT–25 b and CoRoT–26 b: two low-density giant planets. *A&A*, 555, A118 {22}

Almenara JM, Damiani C, Bouchy F, et al., 2015b, SOPHIE velocimetry of Kepler transit candidates. XV. KOI–614 b, KOI–206 b, and KOI–680 b: a massive warm Jupiter orbiting a G0 metallic dwarf and two highly inflated planets with a distant companion around evolved F-type stars. *A&A*, 575, A71 {34}

Almenara JM, Díaz RF, Bonfils X, et al., 2016, Absolute densities, masses, and radii of the WASP–47 system determined dynamically. *A&A*, 595, L5 {45}

Almenara JM, Díaz RF, Dorn C, et al., 2018, Absolute densities in exoplanetary systems: photodynamical modelling of Kepler–138. *MNRAS*, 478, 460–486 {32}

Almenara JM, Díaz RF, Mardling R, et al., 2015c, Absolute masses and radii determination in multi-planetary systems without stellar models. *MNRAS*, 453, 2644–2652 {32}

Alonso R, Alapini A, Aigrain S, et al., 2009a, The secondary eclipse of CoRoT–1 b. *A&A*, 506, 353–358 {6, 21}

Alonso R, Auvergne M, Baglin A, et al., 2008a, Transiting exoplanets from the CoRoT space mission. II. CoRoT–2 b: a transiting planet around an active G star. *A&A*, 482, L21–L24 {21}

Alonso R, Barbieri M, Rabus M, et al., 2008b, Limits to the planet candidate GJ 436 c. *A&A*, 487, L5–L8 {16}

Alonso R, Brown TM, Torres G, et al., 2004, TrES–1: the transiting planet of a bright K0V star. *ApJ*, 613, L153–L156 {40}

Alonso R, Deeg HJ, Kabath P, et al., 2010, Ground-based near-infrared observations of the secondary eclipse of CoRoT–2 b. *AJ*, 139, 1481–1485 {21}

Alonso R, Guillot T, Mazeh T, et al., 2009b, The secondary eclipse of the transiting exoplanet CoRoT–2 b. *A&A*, 501, L23–L26 {21}

Alonso R, Moutou C, Endl M, et al., 2014, Transiting exoplanets from the CoRoT space mission. XXVI. CoRoT–24: a transiting multi-planet system. *A&A*, 567, A112 {22}

Alsubai K, Mislis D, Tsvetanov ZI, et al., 2017, Qatar exoplanet survey: Qatar–3 b, Qatar–4 b, and Qatar–5 b. *AJ*, 153, 200 {40}

Alsubai K, Tsvetanov ZI, Latham DW, et al., 2018, Qatar exoplanet survey: Qatar–6 b, a grazing transiting hot Jupiter. *AJ*, 155, 52 {40}

Alsubai KA, Parley NR, Bramich DM, et al., 2011, Qatar–1 b: a hot Jupiter orbiting a metal-rich K dwarf star. *MNRAS*, 417, 709–716 {39}

Alvarado-Gómez JD, Hussain GAJ, Cohen O, et al., 2016a, Simulating the environ-

ment around planet-hosting stars. I. Coronal structure. *A&A*, 588, A28 {11}
—, 2016b, Simulating the environment around planet-hosting stars. II. Stellar winds and inner astrospheres. *A&A*, 594, A95 {11}
Alves AJ, Michtchenko TA, Tadeu dos Santos M, 2016, Dynamics of the 3:1 planetary mean-motion resonance: an application to the HD 60532 b-c planetary system. *Cel. Mech. Dyn. Astron.*, 124, 311–334 {8}
Amundsen DS, Mayne NJ, Baraffe I, et al., 2016, The UK Meteorological Office global circulation model with a sophisticated radiation scheme applied to the hot Jupiter HD 209458 b. *A&A*, 595, A36 {21}
Anderson DR, Barros SCC, Boisse I, et al., 2011a, WASP–40 b: independent discovery of the $0.6M_J$ transiting exoplanet HAT–P–27 b. *PASP*, 123, 555–560 {25}
Anderson DR, Brown DJA, Collier Cameron A, et al., 2014a, Six newly-discovered hot Jupiters transiting F/G stars: WASP–87 b, WASP–108 b, WASP–109 b, WASP–110 b, WASP–111 b and WASP–112 b [unpublished]. *ArXiv e-prints* {46, 47}
Anderson DR, Collier Cameron A, Delrez L, et al., 2014b, Three newly discovered sub-Jupiter-mass planets: WASP–69 b and WASP–84 b transit active K dwarfs and WASP–70A b transits the evolved primary of a G4+K3 binary. *MNRAS*, 445, 1114–1129 {46}
—, 2017, The discoveries of WASP–91 b, WASP–105 b and WASP–107 b: two warm Jupiters and a planet in the transition region between ice giants and gas giants. *A&A*, 604, A110 {46, 47}
Anderson DR, Collier Cameron A, Gillon M, et al., 2011b, Spin–orbit measurements and refined parameters for the exoplanet systems WASP–22 and WASP–26. *A&A*, 534, A16 {44}
—, 2012, WASP–44 b, WASP–45 b and WASP–46 b: three short-period, transiting extrasolar planets. *MNRAS*, 422, 1988–1998 {45}
Anderson DR, Collier Cameron A, Hellier C, et al., 2011c, WASP–30 b: a $61M_J$ brown dwarf transiting a $V = 12$, F8 star. *ApJ*, 726, L19 {44}
—, 2011d, WASP–31 b: a low-density planet transiting a metal-poor, late-F-type dwarf star. *A&A*, 531, A60 {44}
—, 2015a, WASP–20 b and WASP–28 b: a hot Saturn and a hot Jupiter in near-aligned orbits around solar-type stars. *A&A*, 575, A61 {44}
Anderson DR, Gillon M, Hellier C, et al., 2008, WASP–5 b: a dense, very hot Jupiter transiting a 12 mag southern-hemisphere star. *MNRAS*, 387, L4–L7 {42}
Anderson DR, Gillon M, Maxted PFL, et al., 2010a, H-band thermal emission from the 19-hr period planet WASP–19 b. *A&A*, 513, L3 {44}
Anderson DR, Hellier C, Gillon M, et al., 2010b, WASP–17 b: an ultra-low density planet in a probable retrograde orbit. *ApJ*, 709, 159–167 {43}
Anderson DR, Smith AMS, Lanotte AA, et al., 2011e, Thermal emission at 4.5 and 8 μm of WASP–17 b, an extremely large planet in a slightly eccentric orbit. *MNRAS*, 416, 2108–2122 {43}
Anderson DR, Smith AMS, Madhusudhan N, et al., 2013, Thermal emission at 3.6 – 8 μm from WASP–19 b: a hot Jupiter without a stratosphere orbiting an active star. *MNRAS*, 430, 3422–3431 {44}
Anderson DR, Triaud AHMJ, Turner OD, et al., 2015b, The well-aligned orbit of WASP–84 b: evidence for disk migration of a hot Jupiter. *ApJ*, 800, L9 {46}
Andrade-Ines E, Michtchenko TA, 2014, Dynamical stability of terrestrial planets in the binary α Cen system. *MNRAS*, 444, 2167–2177 {2}
André Q, Papaloizou JCB, 2016, On the orbital evolution of a pair of giant planets in mean motion resonance. *MNRAS*, 461, 4406–4418 {4, 8, 11}
Andrews SM, Rosenfeld KA, Wilner DJ, et al., 2011, A closer look at the LkCa 15 protoplanetary disk. *ApJ*, 742, L5 {54}
Angelo I, Hu R, 2017, A case for an atmosphere on super-Earth 55 Cnc e. *AJ*, 154, 232 {16}
Angelo I, Rowe JF, Howell SB, et al., 2017, Kepler–1649 b: an exo-Venus in the solar neighbourhood. *AJ*, 153, 162 {36}
Angerhausen D, DeLarme E, Morse JA, 2015a, A comprehensive study of Kepler phase curves and secondary eclipses: temperatures and albedos of confirmed Kepler giant planets. *PASP*, 127, 1113–1130 {24, 25, 27, 28, 29, 30, 31, 34, 41}
Angerhausen D, Dreyer C, Placek B, et al., 2017, Simultaneous multicolour optical and near-IR transit photometry of GJ 1214 b with SOFIA. *A&A*, 608, A120 {23}
Angerhausen D, Mandushev G, Mandell A, et al., 2015b, First exoplanet transit observation with the Stratospheric Observatory for Infrared Astronomy (SOFIA): confirmation of Rayleigh scattering in HD 189733 b with the High-Speed Imaging Photometer for Occultations. *Journal of Astronomical Telescopes, Instruments, and Systems*, 1(3), 034002 {19}
Anglada G, Amado PJ, Ortiz JL, et al., 2017, ALMA discovery of dust belts around Proxima Cen. *ApJ*, 850, L6 {2}
Anglada-Escudé G, Amado PJ, Barnes J, et al., 2016a, A terrestrial planet candidate in a temperate orbit around Proxima Cen. *Nature*, 536, 437–440 {2}
Anglada-Escudé G, Arriagada P, Tuomi M, et al., 2014, Two planets around Kapteyn's star: a cold and a temperate super-Earth orbiting the nearest halo red dwarf. *MNRAS*, 443, L89–L93 {4}
Anglada-Escudé G, Arriagada P, Vogt SS, et al., 2012a, A planetary system around the nearby M dwarf GJ 667C with at least one super-Earth in its habitable zone. *ApJ*, 751, L16 {5}
Anglada-Escudé G, Boss AP, Weinberger AJ, et al., 2012b, Astrometry and radial velocities of the planet host M dwarf GJ 317: new trigonometric distance, metallicity, and upper limit to the mass of GJ 317 b. *ApJ*, 746, 37 {5}
Anglada-Escudé G, Rojas-Ayala B, Boss AP, et al., 2013a, GJ 1214 reviewed: parallax, stellar parameters, orbital solution, and bulk properties for the super-Earth GJ 1214 b. *A&A*, 551, A48 {23}
Anglada-Escudé G, Tuomi M, 2012, A planetary system with gas giants and super-Earths around the nearby M dwarf GJ 676 A: optimising data analysis techniques for the detection of multi-planetary systems. *A&A*, 548, A58 {5}
—, 2015, Comment on: Stellar activity masquerading as planets in the habitable zone of the M dwarf GJ 581. *Science*, 347, 1080–1080 {5}
Anglada-Escudé G, Tuomi M, Arriagada P, et al., 2016b, No evidence for activity correlations in the radial velocities of Kapteyn's Star. *ApJ*, 830, 74 {4}
Anglada-Escudé G, Tuomi M, Gerlach E, et al., 2013b, A dynamically-packed planetary system around GJ 667C with three super-Earths in its habitable zone. *A&A*, 556, A126 {5}
Antoniadou KI, Voyatzis G, 2016, Orbital stability of coplanar two-planet exosystems with high eccentricities. *MNRAS*, 461, 3822–3834 {6, 9, 10}
Antonyuk KA, Shakhovskoi DN, Ksanfomaliti LV, 2013, Polarimetry of the exoplanet system 51 Peg. *Solar System Research*, 47, 185–188 {4}
Apai D, Kasper M, Skemer A, et al., 2016, High-cadence, high-contrast imaging for exoplanet mapping: observations of the HR 8799 planets with VLT–SPHERE satellite-spot-corrected relative photometry. *ApJ*, 820, 40 {53}
Apps K, Clubb KI, Fischer DA, et al., 2010, M2K. I. A Jupiter-mass planet orbiting the M3V star HIP 79431. *PASP*, 122, 156–161 {13}
Arakcheev AS, Zhilkin AG, Kaigorodov PV, et al., 2017, Reduction of mass loss by the hot Jupiter WASP–12 b due to its magnetic field. *Astronomy Reports*, 61, 932–941 {43}
Arcangeli J, Désert JM, Line MR, et al., 2018, H^- opacity and water dissociation in the day-side atmosphere of the very hot gas giant WASP–18 b. *ApJ*, 855, L30 {44}
Armstrong C, Rein H, 2015, High-order harmonics in light curves of Kepler planets. *MNRAS*, 453, L98–L102 {24, 28, 33}
Armstrong D, Martin DV, Brown G, et al., 2013, Placing limits on the transit timing variations of circumbinary exoplanets. *MNRAS*, 434, 3047–3054 {28, 29}
Armstrong DJ, de Mooij E, Barstow J, et al., 2016a, Variability in the atmosphere of the hot giant planet HAT–P–7 b. *Nature Astronomy*, 1, 0004 {24}
Armstrong DJ, Pugh CE, Broomhall AM, et al., 2016b, The host stars of Kepler's habitable exoplanets: super-flares, rotation and activity. *MNRAS*, 455, 3110–3125 {28, 30, 32, 33, 35}
Armstrong DJ, Santerne A, Veras D, et al., 2015, One of the closest exoplanet pairs to the 3:2 mean motion resonance: K2–19 b and c. *A&A*, 582, A33 {37}
Arney GN, Meadows VS, Domagal-Goldman SD, et al., 2017, Pale Orange Dots: the impact of organic haze on the habitability and detectability of Earth-like exoplanets. *ApJ*, 836, 49 {6}
Aronson E, Piskunov N, 2018, Model-independent exoplanet transit spectroscopy. *AJ*, 155, 208 {23, 45}
Arras P, Burkart J, Quataert E, et al., 2012, The radial velocity signature of tides raised in stars hosting exoplanets. *MNRAS*, 422, 1761–1766 {8, 13, 21, 22, 23, 24, 25, 39, 40, 41, 42, 43, 44, 45, 48}
Arriagada P, Anglada-Escudé G, Butler RP, et al., 2013, Two planetary companions around the K7 dwarf GJ 221: a hot super-Earth and a candidate in the sub-Saturn desert range. *ApJ*, 771, 42 {4}
Arriagada P, Butler RP, Minniti D, et al., 2010, Five long-period extrasolar planets in eccentric orbits from the Magellan planet search programme. *ApJ*, 711, 1229–1235 {9, 10, 11, 12}
Arribas S, Gilliland RL, Sparks WB, et al., 2006, Exploring the potential of integral field spectroscopy for observing extrasolar planet transits: ground-based observations of the atmospheric Na in HD 209458 b. *PASP*, 118, 21–36 {20}
Artigau É, Gagné J, Faherty J, et al., 2015, BANYAN. VI. Discovery of a companion at the brown dwarf/planet-mass limit to a Tuc–Hor M dwarf. *ApJ*, 806, 254 {54}
Aschwanden MJ, 2018, Self-organising systems in planetary physics: harmonic resonances of planet and moon orbits. *New Astron.*, 58, 107–123 {6, 16}
Asghari N, Broeg C, Carone L, et al., 2004, Stability of terrestrial planets in the habitable zone of GJ 777A, HD 72659, GJ 614, 47 UMa and HD 4208. *A&A*, 426, 353–365 {3, 4, 9}
Astudillo-Defru N, Bonfils X, Delfosse X, et al., 2015, The HARPS search for southern extrasolar planets. XXXVI. Planetary systems and stellar activity of the M dwarfs GJ 3293, GJ 3341, and GJ 3543. *A&A*, 575, A119 {6}
Astudillo-Defru N, Díaz RF, Bonfils X, et al., 2017a, The HARPS search for southern extrasolar planets. XLII. A system of Earth-mass planets around the nearby M dwarf YZ Cet. *A&A*, 605, L11 {3}
Astudillo-Defru N, Forveille T, Bonfils X, et al., 2017b, The HARPS search for southern extrasolar planets. XLI. A dozen planets around the M dwarfs GJ 3138, GJ 3323, GJ 273, GJ 628, and GJ 3293. *A&A*, 602, A88 {4, 5, 6}
Astudillo-Defru N, Rojo P, 2013, Ground-based detection of calcium and possibly scandium and hydrogen in the atmosphere of HD 209458 b. *A&A*, 557, A56 {20}
Avenhaus H, Quanz SP, Meyer MR, et al., 2014, HD 100546 multi-epoch scattered light observations. *ApJ*, 790, 56 {52}
Awiphan S, Kerins E, Pichadee S, et al., 2016, Transit timing variation and transmission spectroscopy analyses of the hot Neptune GJ 3470 b. *MNRAS*, 463, 2574–2582 {17}
Bachelet E, Bramich DM, Han C, et al., 2015, Red noise versus planetary interpretations in the microlensing event OGLE–2013–BLG–446. *ApJ*, 812, 136 {50}
Bachelet E, Shin IG, Han C, et al., 2012, MOA–2010–BLG–477L b: constraining the mass of a microlensing planet from microlensing parallax, orbital motion, and detection of blended light. *ApJ*, 754, 73 {49}
Backman D, Marengo M, Stapelfeldt K, et al., 2009, ϵ Eri's planetary debris disk: structure and dynamics based on Spitzer and Caltech submillimeter observatory observations. *ApJ*, 690, 1522–1538 {3}
Bailer-Jones CAL, Farnocchia D, Meech KJ, et al., 2018, Plausible home stars of the interstellar object Oumuamua found in Gaia DR2. *AJ*, 156, 205 {54}
Bailey J, Butler RP, Tinney CG, et al., 2009, A Jupiter-like planet orbiting the nearby M dwarf GJ 832. *ApJ*, 690, 743–747 {5}
Bailey V, Meshkat T, Reiter M, et al., 2014, HD 106906 b: a planetary-mass companion outside a massive debris disk. *ApJ*, 780, L4 {53}
Baines EK, Armstrong JT, 2012, Confirming fundamental properties of the exoplanet host star ϵ Eri using the Navy Optical Interferometer. *ApJ*, 744, 138 {3}
Baines EK, Armstrong JT, van Belle GT, 2013, Navy Precision Optical Interferometer (NPOI) observations of the exoplanet host κ CrB and their implications for the star and planet masses and ages. *ApJ*, 771, L17 {3}
Baines EK, McAlister HA, ten Brummelaar TA, et al., 2011, Fundamental parameters of the exoplanet host K giant star ι Dra from the CHARA array. *ApJ*, 743, 130 {13}
Baines EK, van Belle GT, ten Brummelaar TA, et al., 2007, Direct measurement of the radius and density of the transiting exoplanet HD 189733 b with the CHARA

array. *ApJ*, 661, L195–L198 {18}

Baines EK, White RJ, Huber D, et al., 2012, The CHARA array angular diameter of HR 8799 favours planetary masses for its imaged companions. *ApJ*, 761, 57 {53}

Bakos GÁ, Hartman JD, Bhatti W, et al., 2015a, HAT–P–54 b: a hot Jupiter transiting a $0.6M_\odot$ star in Field 0 of the K2 mission. *AJ*, 149, 149 {26}

Bakos GÁ, Hartman JD, Torres G, et al., 2011, HAT–P–20 b – HAT–P–23 b: four massive transiting extrasolar planets. *ApJ*, 742, 116 {25}

—, 2012, HAT–P–34 b – HAT–P–37 b: four transiting planets more massive than Jupiter orbiting moderately bright stars. *AJ*, 144, 19 {25, 26}

—, 2016, HAT–P–47 b and HAT–P–48 b: two low density sub-Saturn-mass transiting planets on the edge of the period–mass desert [unpublished]. *ArXiv e-prints* {26}

Bakos GÁ, Howard AW, Noyes RW, et al., 2009a, HAT–P–13 b,c: a transiting hot Jupiter with a massive outer companion on an eccentric orbit. *ApJ*, 707, 446–456 {25}

Bakos GÁ, Knutson H, Pont F, et al., 2006a, Refined parameters of the planet orbiting HD 189733. *ApJ*, 650, 1160–1171 {18}

Bakos GÁ, Kovács G, Torres G, et al., 2007a, HD 147506 b: a supermassive planet in an eccentric orbit transiting a bright star. *ApJ*, 670, 826–832 {23}

Bakos GÁ, Noyes RW, Kovács G, et al., 2007b, HAT–P–1 b: a large-radius, low-density exoplanet transiting one member of a stellar binary. *ApJ*, 656, 552–559 {23}

Bakos GÁ, Pál A, Latham DW, et al., 2006b, A stellar companion in the HD 189733 system with a known transiting extrasolar planet. *ApJ*, 641, L57–L60 {18}

Bakos GÁ, Pál A, Torres G, et al., 2009b, HAT–P–10 b: a light and moderately hot Jupiter transiting a K dwarf. *ApJ*, 696, 1950–1955 {42}

Bakos GÁ, Penev K, Bayliss D, et al., 2015b, HATS–7 b: a hot super Neptune transiting a quiet K dwarf star. *ApJ*, 813, 111 {26}

Bakos GÁ, Shporer A, Pál A, et al., 2007c, HAT–P–5 b: a Jupiter-like hot Jupiter transiting a bright star. *ApJ*, 671, L173–L176 {24}

Bakos GÁ, Torres G, Pál A, et al., 2010, HAT–P–11 b: a super-Neptune planet transiting a bright K star in the Kepler field. *ApJ*, 710, 1724–1745 {24}

Balan ST, Lahav O, 2011, EXOFIT: Bayesian estimation of orbital parameters of extrasolar planets. *ASP Conf. Ser.*, volume 450, 147 {11}

Baliunas SL, Henry GW, Donahue RA, et al., 1997, Properties of Sun-like stars with planets: 55 Cnc, τ Boo, and υ And. *ApJ*, 474, L119 {1, 16}

Ballard S, Chaplin WJ, Charbonneau D, et al., 2014, Kepler–93 b: a terrestrial world measured to within 120 km, and a test case for a new Spitzer observing mode. *ApJ*, 790, 12 {31}

Ballard S, Charbonneau D, Deming D, et al., 2010a, A search for a sub-Earth-sized companion to GJ 436 and calibrating warm Spitzer–IRAC. *PASP*, 122, 1341–1352 {16}

Ballard S, Charbonneau D, Fressin F, et al., 2013, Exoplanet characterisation by proxy: a transiting $2.15R_\oplus$ planet near the habitable zone of the late K dwarf Kepler–61. *ApJ*, 773, 98 {30}

Ballard S, Christiansen JL, Charbonneau D, et al., 2010b, A search for additional planets in the NASA EPOXI observations of GJ 436. *ApJ*, 716, 1047–1059 {16}

—, 2011a, A search for additional planets in five of the exoplanetary systems studied by the NASA EPOXI mission. *ApJ*, 732, 41 {24, 40, 41}

Ballard S, Fabrycky DC, Fressin F, et al., 2011b, The Kepler–19 system: a transiting $2.2R_\oplus$ planet and a second planet detected via transit timing variations. *ApJ*, 743, 200 {28}

Ballering NP, Su KYL, Rieke GH, et al., 2016, A comprehensive dust model applied to the resolved β Pic debris disk from optical to radio wavelengths. *ApJ*, 823, 108 {52}

Ballester GE, Ben-Jaffel L, 2015, Re-visit of HST far ultraviolet observations of the hot-Jupiter system HD 209458: no Si III detection and the need for COS transit observations. *ApJ*, 804, 116 {21}

Ballester GE, Sing DK, Herbert F, 2007, The signature of hot hydrogen in the atmosphere of the extrasolar planet HD 209458 b. *Nature*, 445, 511–514 {20}

Ballesteros FJ, Arnalte-Mur P, Fernandez-Soto A, et al., 2018, KIC–8462852: will the Trojans return in 2021? *MNRAS*, 473, L21–L25 {36}

Ballot J, Gizon L, Samadi R, et al., 2011, Accurate p-mode measurements of the G0V metal-rich CoRoT target HD 52265. *A&A*, 530, A97 {8}

Baluev RV, 2008, Resonances of low orders in the planetary system of HD 37124. *Cel. Mech. Dyn. Astron.*, 102, 297–325 {7}

—, 2011, Orbital structure of the GJ 876 extrasolar planetary system based on the latest Keck and HARPS radial velocity data. *Cel. Mech. Dyn. Astron.*, 111, 235–266 {5}

—, 2012, Distinguishing between a true period and its alias, and other tasks of model discrimination. *MNRAS*, 422, 2372–2385 {5, 6, 9, 11, 16}

—, 2013, The impact of red noise in radial velocity planet searches: only three planets orbiting GJ 581? *MNRAS*, 429, 2052–2068 {5}

—, 2015, Enhanced models for stellar Doppler noise reveal hints of a 13-year activity cycle of 55 Cnc. *MNRAS*, 446, 1493–1511 {16}

Baluev RV, Beaugé C, 2014, Possible solution to the riddle of HD 82943 multi-planet system: the three-planet resonance 1:2:5? *MNRAS*, 439, 673–689 {9}

Baluev RV, Shaidulin VS, 2015, Analytic models of the Rossiter–McLaughlin effect for arbitrary eclipser/star size ratios and arbitrary multiline stellar spectra. *MNRAS*, 454, 4379–4399 {19}

Baluev RV, Sokov EN, Shaidulin VS, et al., 2015, Benchmarking the power of amateur observatories for TTV exoplanets detection. *MNRAS*, 450, 3101–3113 {17, 19, 21, 26, 40, 41, 42, 46, 48}

Bang TY, Lee BC, Jeong Gh, et al., 2018, A search for exoplanets around northern circumpolar stars. III. Long-period radial velocity variations in HD 18438 and HD 158996. *Journal of Korean Astronomical Society*, 51, 17–25 {11}

Bannister MT, Schwamb ME, Fraser WC, et al., 2017, Col-OSSOS: colours of the interstellar planetesimal Oumuamua. *ApJ*, 851, L38 {54}

Baraffe I, Chabrier G, Barman TS, et al., 2003, Evolutionary models for cool brown dwarfs and extrasolar giant planets: the case of HD 209458. *A&A*, 402, 701–712 {19}

Baraffe I, Selsis F, Chabrier G, et al., 2004, The effect of evaporation on the evolution of close-in giant planets. *A&A*, 419, L13–L16 {20}

Baran AS, Zola S, Blokesz A, et al., 2015, Detection of a planet in the sdB + M dwarf binary system 2M J1938+4603. *A&A*, 577, A146 {35}

Barbieri M, Alonso R, Desidera S, et al., 2009, Characterisation of the HD 17156 planetary system. *A&A*, 503, 601–612 {17}

Barbieri M, Alonso R, Laughlin G, et al., 2007, HD 17156 b: a transiting planet with a 21.2-day period and an eccentric orbit. *A&A*, 476, L13–L16 {17}

Barbieri M, Marzari F, Scholl H, 2002, Formation of terrestrial planets in close binary systems: the case of α Cen A. *A&A*, 396, 219–224 {2}

Barclay T, Burke CJ, Howell SB, et al., 2013a, A super-Earth-sized planet orbiting near the habitable zone around a Sun-like star. *ApJ*, 768, 101 {31}

Barclay T, Endl M, Huber D, et al., 2015a, Radial velocity observations and light curve noise modeling confirm that Kepler–91 b is a giant planet orbiting a giant star. *ApJ*, 800, 46 {31}

Barclay T, Huber D, Rowe JF, et al., 2012, Photometrically derived masses and radii of the planet and star in the TrES–2 system. *ApJ*, 761, 53 {41}

Barclay T, Quintana EV, Adams FC, et al., 2015b, The five planets in the Kepler–296 binary system all orbit the primary: a statistical and analytical analysis. *ApJ*, 809, 7 {33}

Barclay T, Rowe JF, Lissauer JJ, et al., 2013b, A sub-Mercury-sized exoplanet. *Nature*, 494, 452–454 {29}

Barge P, Baglin A, Auvergne M, et al., 2008, Transiting exoplanets from the CoRoT space mission. I. CoRoT–1 b: a low-density short-period planet around a G0V star. *A&A*, 482, L17–L20 {21}

Barkaoui K, Burdanov A, Hellier C, et al., 2019, Discovery of three new transiting hot Jupiters: WASP–161 b, WASP–163 b and WASP–170 b. *AJ*, 157, 43 {47}

Barlow BN, Wade RA, Liss SE, 2012, The Rømer delay and mass ratio of the sdB+dM binary 2M J1938+4603 from Kepler eclipse timings. *ApJ*, 753, 101 {35}

Barman TS, 2007, Identification of absorption features in an extrasolar planet atmosphere. *ApJ*, 661, L191–L194 {20}

—, 2008, On the presence of water and global circulation in the transiting planet HD 189733 b. *ApJ*, 676, L61–L64 {18}

Barman TS, Hauschildt PH, Schweitzer A, et al., 2002, Non-LTE effects of Na I in the atmosphere of HD 209458 b. *ApJ*, 569, L51–L54 {19}

Barman TS, Konopacky QM, Macintosh B, et al., 2015, Simultaneous detection of H_2O, CH_4, and CO in the atmosphere of exoplanet HR 8799 b. *ApJ*, 804, 61 {53}

Barman TS, Macintosh B, Konopacky QM, et al., 2011a, Clouds and chemistry in the atmosphere of extrasolar planet HR 8799 b. *ApJ*, 733, 65 {53}

—, 2011b, The young planet-mass object 2M J1207 b: a cool, cloudy, and methane-poor atmosphere. *ApJ*, 735, L39 {54}

Barnes JR, Barman TS, Jones HRA, et al., 2008a, HD 179949 b: a close orbiting extrasolar giant planet with a stratosphere? *MNRAS*, 390, 1258–1266 {12}

—, 2010, A search for molecules in the atmosphere of HD 189733 b. *MNRAS*, 401, 445–454 {18}

Barnes JR, Barman TS, Prato L, et al., 2007a, Limits on the 2.2-μm contrast ratio of the close-orbiting planet HD 189733 b. *MNRAS*, 382, 473–480 {18}

Barnes JR, Haswell CA, Staab D, et al., 2016, The origin of the excess transit absorption in the HD 189733 system: planet or star? *MNRAS*, 462, 1012–1028 {19}

Barnes JR, Leigh CJ, Jones HRA, et al., 2007b, Near-infrared spectroscopic search for the close orbiting planet HD 75289 b. *MNRAS*, 379, 1097–1107 {9}

Barnes JW, Ahlers JP, Seubert SA, et al., 2015a, Probable spin–orbit aligned super-Earth planet candidate KOI–2138. *ApJ*, 808, L38 {36}

Barnes JW, Fortney JJ, 2003, Measuring the oblateness and rotation of transiting extrasolar giant planets. *ApJ*, 588, 545–556 {19}

Barnes JW, Linscott E, Shporer A, 2011a, Measurement of the spin–orbit misalignment of KOI–13.01 from its gravity-darkened Kepler transit light curve. *ApJS*, 197, 10 {28}

Barnes JW, van Eyken JC, Jackson BK, et al., 2013a, Measurement of spin–orbit misalignment and nodal precession for the planet around pre-main-sequence star PTFO 8–8695 from gravity darkening. *ApJ*, 774, 53 {39}

Barnes R, Deitrick R, Greenberg R, et al., 2015b, Long-lived chaotic orbital evolution of exoplanets in mean motion resonances with mutual inclinations. *ApJ*, 801, 101 {8, 9}

Barnes R, Goździewski K, Raymond SN, 2008b, The successful prediction of the extrasolar planet HD 74156 d. *ApJ*, 680, L57–L60 {9}

Barnes R, Greenberg R, 2007, Stability limits in resonant planetary systems. *ApJ*, 665, L67–L70 {9, 16}

Barnes R, Greenberg R, Quinn TR, et al., 2011b, Origin and dynamics of the mutually inclined orbits of υ And c and d. *ApJ*, 726, 71 {1}

Barnes R, Jackson B, Raymond SN, et al., 2009, The HD 40307 planetary system: super-Earths or mini-Neptunes? *ApJ*, 695, 1006–1011 {8}

Barnes R, Mullins K, Goldblatt C, et al., 2013b, Tidal Venuses: triggering a climate catastrophe via tidal heating. *Astrobiology*, 13, 225–250 {5}

Barnes R, Quinn T, 2001, A statistical examination of the short-term stability of the υ And planetary system. *ApJ*, 550, 884–889 {1}

Barr AC, Dobos V, Kiss LL, 2018, Interior structures and tidal heating in the TRAPPIST–1 planets. *A&A*, 613, A37 {40}

Barragán O, Gandolfi D, Dai F, et al., 2018a, K2–141 b: a $5M_\oplus$ super-Earth transiting a K7V star every 6.7 h. *A&A*, 612, A95 {38}

Barragán O, Gandolfi D, Smith AMS, et al., 2018b, K2–139 b: a low-mass warm Jupiter on a 29-d orbit transiting an active K0 V star. *MNRAS*, 475, 1765–1776 {38}

Barragán O, Grziwa S, Gandolfi D, et al., 2016, EPIC–211391664 b (K2–98): a $32M_\oplus$ Neptune-size planet in a 10-d orbit transiting an F8 star. *AJ*, 152, 193 {38}

Barros SCC, Almenara JM, Deleuil M, et al., 2014a, Revisiting the transits of CoRoT–7b at a lower activity level. *A&A*, 569, A74 {22}

Barros SCC, Almenara JM, Demangeon O, et al., 2015, Photodynamical mass determination of the multi-planetary system K2–19. *MNRAS*, 454, 4267–4276 {37}

Barros SCC, Boué G, Gibson NP, et al., 2013, Transit timing variations in WASP–10 b induced by stellar activity. *MNRAS*, 430, 3032–3047 {42}

Published by Cambridge University Press, ISBN 9781108419772

Barros SCC, Brown DJA, Hébrard G, et al., 2016, WASP–113 b and WASP–114 b, two inflated hot Jupiters with contrasting densities. *A&A*, 593, A113 {47}

Barros SCC, Díaz RF, Santerne A, et al., 2014b, SOPHIE velocimetry of Kepler transit candidates. X. KOI–142 c: first radial velocity confirmation of a non-transiting exoplanet discovered by transit timing. *A&A*, 561, L1 {31}

Barros SCC, Faedi F, Collier Cameron A, et al., 2011a, WASP–38 b: a transiting exoplanet in an eccentric, 6.87-d period orbit. *A&A*, 525, A54 {45}

Barros SCC, Gosselin H, Lillo-Box J, et al., 2017, Precise masses for the transiting planetary system HD 106315 with HARPS. *A&A*, 608, A25 {38}

Barros SCC, Pollacco DL, Gibson NP, et al., 2011b, A lower mass for the exoplanet WASP–21 b. *MNRAS*, 416, 2593–2599 {44}

—, 2012, High-precision transit observations of the exoplanet WASP–13 b with the RISE instrument. *MNRAS*, 419, 1248–1253 {43}

Barstow JK, Aigrain S, Irwin PGJ, et al., 2013, Constraining the atmosphere of GJ 1214 b using an optimal estimation technique. *MNRAS*, 434, 2616–2628 {23}

—, 2014, Clouds on the hot Jupiter HD 189733 b: constraints from the reflection spectrum. *ApJ*, 786, 154 {19}

—, 2017, A consistent retrieval analysis of 10 hot Jupiters observed in transmission. *ApJ*, 834, 50 {19, 21, 23, 24, 42, 43, 44, 45}

Barstow JK, Irwin PGJ, 2016, Habitable worlds with JWST: transit spectroscopy of the TRAPPIST–1 system? *MNRAS*, 461, L92–L96 {40}

Bartlett JL, Lurie JC, Riedel A, et al., 2017, The solar neighbourhood. 40. Parallax results from the CTIOPI 0.9 m programme: new young stars near the Sun. *AJ*, 154, 151 {40}

Baskin NJ, Knutson HA, Burrows A, et al., 2013, Secondary eclipse photometry of the exoplanet WASP–5 b with warm Spitzer. *ApJ*, 773, 124 {42}

Bastian TS, Dulk GA, Leblanc Y, 2000, A search for radio emission from extrasolar planets. *ApJ*, 545, 1058–1063 {1, 2, 3, 4, 10, 16}

Bastian TS, Villadsen J, Maps A, et al., 2018, Radio emission from the exoplanetary system ϵ Eri. *ApJ*, 857, 133 {3}

Batalha NM, Borucki WJ, Bryson ST, et al., 2011, Kepler's first rocky planet: Kepler–10 b. *ApJ*, 729, 27 {27}

Batalha NM, Rowe JF, Bryson ST, et al., 2013, Planetary candidates observed by Kepler. III. Analysis of the first 16 months. *ApJS*, 204, 24 {31}

Batista V, Beaulieu JP, Gould A, et al., 2014, MOA–2011–BLG–293L b: first microlensing planet possibly in the habitable zone. *ApJ*, 780, 54 {49}

Batista V, Gould A, Dieters S, et al., 2011, MOA–2009–BLG–387L b: a massive planet orbiting an M dwarf. *A&A*, 529, A102 {49}

Batygin K, Deck KM, Holman MJ, 2015, Dynamical evolution of multi-resonant systems: the case of GJ 876. *AJ*, 149, 167 {6}

Batygin K, Laughlin G, 2011, Resolving the sin i degeneracy in low-mass multi-planet systems. *ApJ*, 730, 95 {4}

Batygin K, Laughlin G, Meschiari S, et al., 2009, A quasi-stationary solution to GJ 436 b's eccentricity. *ApJ*, 699, 23–30 {16}

Batygin K, Stevenson DJ, 2010, Inflating hot Jupiters with Ohmic dissipation. *ApJ*, 714, L238–L243 {18, 20, 41}

—, 2013, Mass–radius relationships for very low mass gaseous planets. *ApJ*, 769, L9 {29}

Baudino JL, Bézard B, Boccaletti A, et al., 2015, Interpreting the photometry and spectroscopy of directly imaged planets: a new atmospheric model applied to β Pic b and SPHERE observations. *A&A*, 582, A83 {52}

Bayliss D, Gillen E, Eigmüller P, et al., 2018a, NGTS–1 b: a hot Jupiter transiting an M dwarf. *MNRAS*, 475, 4467–4475 {39}

Bayliss D, Hartman JD, Bakos GÁ, et al., 2015, HATS–8 b: a low-density transiting super-Neptune. *AJ*, 150, 49 {26}

Bayliss D, Hartman JD, Zhou G, et al., 2018b, HATS–36 b and 24 other transiting/eclipsing systems from the HAT–South–K2 Campaign 7 program. *AJ*, 155, 119 {26}

Bayliss D, Zhou G, Penev K, et al., 2013, HATS–3 b: an inflated hot Jupiter transiting an F-type star. *AJ*, 146, 113 {26}

Bayliss DDR, Winn JN, Mardling RA, et al., 2010, Confirmation of a retrograde orbit for exoplanet WASP–17 b. *ApJ*, 722, L224–L227 {43}

Bazot M, Bourguignon S, Christensen-Dalsgaard J, 2012, A Bayesian approach to the modelling of α Cen A. *MNRAS*, 427, 1847–1866 {2}

Bazot M, Vauclair S, Bouchy F, et al., 2005, Seismic analysis of the planet-hosting star μ Ara. *A&A*, 440, 615–621 {1}

Beamín JC, Minniti D, Pullen JB, et al., 2017, Searching for faint comoving companions to the α Cen system in the VVV survey infrared images. *MNRAS*, 472, 3952–3958 {2}

Bean JL, 2009, An analysis of the transit times of CoRoT–1 b. *A&A*, 506, 369–375 {21}

Bean JL, Benedict GF, Charbonneau D, et al., 2008a, A HST transit light curve for GJ 436 b. *A&A*, 486, 1039–1046 {16}

Bean JL, Désert JM, Kabath P, et al., 2011, The optical and near-infrared transmission spectrum of the super-Earth GJ 1214 b: evidence for a metal-rich atmosphere. *ApJ*, 743, 92 {23}

Bean JL, Désert JM, Seifahrt A, et al., 2013, Ground-based transit spectroscopy of the hot-Jupiter WASP–19 b in the near-infrared. *ApJ*, 771, 108 {44}

Bean JL, McArthur BE, Benedict GF, et al., 2008b, Detection of a third planet in the HD 74156 system using the Hobby–Eberly telescope. *ApJ*, 672, 1202–1208 {9}

Bean JL, Miller-Ricci Kempton E, Homeier D, 2010, A ground-based transmission spectrum of the super-Earth exoplanet GJ 1214 b. *Nature*, 468, 669–672 {23}

Bean JL, Seifahrt A, 2008, Observational consequences of the recently proposed super-Earth orbiting GJ 436. *A&A*, 487, L25–L28 {16}

—, 2009, The architecture of the GJ 876 planetary system: masses and orbital coplanarity for planets b and c. *A&A*, 496, 249–257 {5}

Bear E, Soker N, Harpaz A, 2011, Possible implications of the planet orbiting the red horizontal branch star HIP 13044. *ApJ*, 733, L44 {13}

Beatty TG, Collins KA, Fortney J, et al., 2014, Spitzer and z' secondary eclipse observations of the highly irradiated transiting brown dwarf KELT–1 b. *ApJ*, 783, 112 {26}

Beatty TG, Madhusudhan N, Pogge R, et al., 2017a, The broadband and spectrally resolved H-band eclipse of KELT–1 b and the role of surface gravity in stratospheric inversions in hot Jupiters. *AJ*, 154, 242 {26}

Beatty TG, Madhusudhan N, Tsiaras A, et al., 2017b, Evidence for atmospheric cold-trap processes in the non-inverted emission spectrum of Kepler–13A b using HST–WFC3. *AJ*, 154, 158 {28}

Beatty TG, Pepper J, Siverd RJ, et al., 2012, KELT–2A b: a hot Jupiter transiting the bright primary of a binary system. *ApJ*, 756, L39 {26}

Beatty TG, Stevens DJ, Collins KA, et al., 2017c, Determining empirical stellar masses and radii from transits and Gaia parallaxes as illustrated by Spitzer observations of KELT–11 b. *AJ*, 154, 25 {27}

Beaugé C, Giuppone CA, Ferraz-Mello S, et al., 2008, Reliability of orbital fits for resonant extrasolar planetary systems: the case of HD 82943. *MNRAS*, 385, 2151–2160 {9}

Beaugé C, Leiva AM, Haghighipour N, et al., 2010, Dynamics of planetesimals due to gas drag from an eccentric precessing disk. *MNRAS*, 408, 503–513 {2}

Beaugé C, Michtchenko TA, 2003, Modeling the high-eccentricity planetary three-body problem: application to the GJ 876 planetary system. *MNRAS*, 341, 760–770 {5}

Beaugé C, Michtchenko TA, Ferraz-Mello S, 2006, Planetary migration and extrasolar planets in the 2:1 mean-motion resonance. *MNRAS*, 365, 1160–1170 {5, 16}

Beaulieu JP, Bennett DP, Batista V, et al., 2016, Revisiting the microlensing event OGLE–2012–BLG–26: a solar mass star with two cold giant planets. *ApJ*, 824, 83 {50}

Beaulieu JP, Bennett DP, Fouqué P, et al., 2006, Discovery of a cool planet of $5.5 M_\oplus$ through gravitational microlensing. *Nature*, 439, 437–440 {50}

Beaulieu JP, Carey S, Ribas I, et al., 2008, Primary transit of the planet HD 189733 b at 3.6 and 5.8 μm. *ApJ*, 677, 1343–1347 {18}

Beaulieu JP, Kipping DM, Batista V, et al., 2010, Water in the atmosphere of HD 209458 b from 3.6 – 8 μm IRAC photometric observations in primary transit. *MNRAS*, 409, 963–974 {20}

Beaulieu JP, Tinetti G, Kipping DM, et al., 2011, Methane in the atmosphere of the transiting hot Neptune GJ 436 b? *ApJ*, 731, 16 {16}

Bechter EB, Crepp JR, Ngo H, et al., 2014, WASP–12 b and HAT–P–8 b are members of triple star systems. *ApJ*, 788, 2 {24, 43}

Becker AC, Kundurthy P, Agol E, et al., 2013, Observations of the WASP–2 system by the APOSTLE program. *ApJ*, 764, L17 {41}

Becker JC, Adams FC, 2017, Effects of unseen additional planetary perturbers on compact extrasolar planetary systems. *MNRAS*, 468, 549–563 {28, 45}

Becker JC, Batygin K, 2013, Dynamical measurements of the interior structure of exoplanets. *ApJ*, 778, 100 {25}

Becker JC, Vanderburg A, Adams FC, et al., 2015, WASP–47: a hot Jupiter system with two additional planets discovered by K2. *ApJ*, 812, L18 {45}

Bedding TR, Kjeldsen H, Butler RP, et al., 2004, Oscillation frequencies and mode lifetimes in α Cen A. *ApJ*, 614, 380–385 {2}

Bedell M, Bean JL, Meléndez J, et al., 2017, Kepler–11 is a solar twin: revising the masses and radii of benchmark planets via precise stellar characterisation. *ApJ*, 839, 94 {28}

Bedell M, Meléndez J, Bean JL, et al., 2015, The solar twin planet search. II. A Jupiter twin around a solar twin. *A&A*, 581, A34 {13}

Beerer IM, Knutson HA, Burrows A, et al., 2011, Secondary eclipse photometry of WASP–4 b with Spitzer. *ApJ*, 727, 23 {42}

Beichman C, Livingston J, Werner M, et al., 2016, Spitzer observations of exoplanets discovered with the Kepler K2 Mission. *ApJ*, 822, 39 {37}

Beichman CA, Bryden G, Gautier TN, et al., 2005, An excess due to small grains around the nearby K0V star HD 69830: asteroid or cometary debris? *ApJ*, 626, 1061–1069 {8}

Beichman CA, Giles HAC, Akeson R, et al., 2018, Validation and initial characterisation of the long-period planet Kepler–1654 b. *AJ*, 155, 158 {36}

Beichman CA, Lisse CM, Tanner AM, et al., 2011, Multi-epoch observations of HD 69830: high-resolution spectroscopy and limits to variability. *ApJ*, 743, 85 {8}

Béjar VJS, Zapatero Osorio MR, Pérez-Garrido A, et al., 2008, Discovery of a wide companion near the deuterium-burning mass limit in the Upper Scorpius association. *ApJ*, 673, L185–L189 {54}

Béky B, Bakos GÁ, Hartman J, et al., 2011, HAT–P–27 b: a hot Jupiter transiting a G star on a 3-d orbit. *ApJ*, 734, 109 {25}

Béky B, Holman MJ, Gilliland RL, et al., 2013, Relative photometry of HAT–P–1 b occultations. *AJ*, 145, 166 {23}

Béky B, Holman MJ, Kipping DM, et al., 2014a, Stellar rotation-planetary orbit period commensurability in the HAT–P–11 system. *ApJ*, 788, 1 {24, 28}

Béky B, Kipping DM, Holman MJ, 2014b, SPOTROD: a semi-analytic model for transits of spotted stars. *MNRAS*, 442, 3686–3699 {24}

Bell TJ, Nikolov N, Cowan NB, et al., 2017, The very low albedo of WASP–12 b from spectral eclipse observations with HST. *ApJ*, 847, L2 {43}

Belton MJS, Hainaut OR, Meech KJ, et al., 2018, The excited spin state of Oumuamua. *ApJ*, 856, L21 {54}

Belu AR, Selsis F, Morales JC, et al., 2011, Primary and secondary eclipse spectroscopy with JWST: exploring the exoplanet parameter space. *A&A*, 525, A83 {23}

Ben-Jaffel L, 2007, Exoplanet HD 209458 b: inflated hydrogen atmosphere but no sign of evaporation. *ApJ*, 671, L61–L64 {20}

—, 2008, Spectral, spatial, and time properties of the hydrogen nebula around exoplanet HD 209458 b. *ApJ*, 688, 1352–1360 {20}

Ben-Jaffel L, Ballester GE, 2013, Hubble Space Telescope detection of oxygen in the atmosphere of exoplanet HD 189733 b. *A&A*, 553, A52 {18}

—, 2014, Transit of exomoon plasma tori: new diagnosis. *ApJ*, 785, L30 {19, 43}

Ben-Jaffel L, Sona Hosseini S, 2010, On the existence of energetic atoms in the upper atmosphere of exoplanet HD 209458 b. *ApJ*, 709, 1284–1296 {20}

Benatti S, Desidera S, Damasso M, et al., 2017, The GAPS Programme with HARPS-N at TNG. XII. Characterisation of the planetary system around HD 108874. *A&A*,

599, A90 {10}

Bender C, Simon M, Prato L, et al., 2005, An upper bound on the 1.6 μm flux ratio of the companion to ρ CrB. *AJ*, 129, 402–408 {3}

Bender CF, Mahadevan S, Deshpande R, et al., 2012, The SDSS–HET survey of Kepler eclipsing binaries: spectroscopic dynamical masses of the Kepler–16 circumbinary planet hosts. *ApJ*, 751, L31 {28}

Benedict GF, Harrison TE, 2017, HD 202206: a circumbinary brown dwarf system. *AJ*, 153, 258 {12}

Benedict GF, McArthur BE, Bean JL, et al., 2010, The mass of HD 38529 c from HST astrometry and high-precision radial velocities. *AJ*, 139, 1844–1856 {8}

Benedict GF, McArthur BE, Forveille T, et al., 2002, A mass for the extrasolar planet GJ 876 b determined from HST–FGS3 astrometry and high-precision radial velocities. *ApJ*, 581, L115–L118 {5}

Benedict GF, McArthur BE, Gatewood G, et al., 2006, The extrasolar planet ϵ Eri b: orbit and mass. *AJ*, 132, 2206–2218 {3}

Benest D, 1988, Planetary orbits in the elliptic restricted problem. I. The α Cen system. *A&A*, 206, 143–146 {2}

Benisty M, Tatulli E, Ménard F, et al., 2010, The complex structure of the disk around HD 100546: the inner few astronomical units. *A&A*, 511, A75 {52}

Benneke B, Seager S, 2012, Atmospheric retrieval for super-Earths: uniquely constraining the atmospheric composition with transmission spectroscopy. *ApJ*, 753, 100 {23}

Benneke B, Werner M, Petigura E, et al., 2017, Spitzer observations confirm and rescue the habitable-zone super-Earth K2–18 b for future characterisation. *ApJ*, 834, 187 {37}

Bennett DP, Anderson J, Bond IA, et al., 2006, Identification of the OGLE–2003–BLG–235 (MOA–2003–BLG–53) planetary host star. *ApJ*, 647, L171–L174 {49}

Bennett DP, Batista V, Bond IA, et al., 2014, MOA–2011–BLG–262L b: a sub-Earth-mass moon orbiting a gas giant primary or a high velocity planetary system in the Galactic bulge. *ApJ*, 785, 155 {49}

Bennett DP, Bhattacharya A, Anderson J, et al., 2015, Confirmation of the planetary microlensing signal and star and planet mass determinations for event OGLE–2005–BLG–169. *ApJ*, 808, 169 {49}

Bennett DP, Bond IA, Abe F, et al., 2017, MOA data reveal a new mass, distance, and relative proper motion for planetary system OGLE–2015–BLG–0954L. *AJ*, 154, 68 {50}

Bennett DP, Bond IA, Udalski A, et al., 2008, A low-mass planet with a possible sub-stellar-mass host in microlensing event MOA–2007–BLG–192. *ApJ*, 684, 663–683 {49}

Bennett DP, Rhie SH, Nikolaev S, et al., 2010, Masses and orbital constraints for the OGLE–2006–BLG–109L b,c Jupiter/Saturn analogue planetary system. *ApJ*, 713, 837–855 {50}

Bennett DP, Rhie SH, Udalski A, et al., 2016, The first circumbinary planet found by microlensing: OGLE–2007–BLG–349L(AB) c. *AJ*, 152, 125 {50}

Bennett DP, Sumi T, Bond IA, et al., 2012, Planetary and other short binary microlensing events from the MOA short-event analysis. *ApJ*, 757, 119 {49}

Bennett DP, Udalski A, Bond IA, et al., 2018a, A planetary microlensing event with an unusually red source star: MOA–2011–BLG–291. *AJ*, 156, 113 {49}

Bennett DP, Udalski A, Han C, et al., 2018b, The first planetary microlensing event with two microlensed source stars. *AJ*, 155, 141 {49}

Benomar O, Masuda K, Shibahashi H, et al., 2014, Determination of three-dimensional spin–orbit angle with joint analysis of asteroseismology, transit light curve, and the Rossiter–McLaughlin effect: cases of HAT–P–7 and Kepler–25. *PASJ*, 66, 94 {24, 29}

Bentley SJ, Hellier C, Maxted PFL, et al., 2009, A stellar flare during the transit of the extrasolar planet OGLE–TR–10 b. *A&A*, 505, 901–902 {39}

Bento J, Hartman JD, Bakos GÁ, et al., 2018, HATS–39 b, HATS–40 b, HATS–41 b, and HATS–42 b: three inflated hot Jupiters and a super-Jupiter transiting F stars. *MNRAS*, 477, 3406–3423 {26}

Bento J, Schmidt B, Hartman JD, et al., 2017, HATS–22 b, HATS–23 b and HATS–24 b: three new transiting super-Jupiters from the HAT–South project. *MNRAS*, 468, 835–848 {26}

Bento J, Wheatley P, 2011, Optical transmission photometry of large scale height planets WASP–15 b and WASP–17 b. *AAS Abstracts*, 2, 4003 {43}

Bento J, Wheatley PJ, Copperwheat CM, et al., 2014, Optical transmission photometry of the highly inflated exoplanet WASP–17 b. *MNRAS*, 437, 1511–1518 {43}

Berdyugina SV, Berdyugin AV, Fluri DM, et al., 2008, First detection of polarised scattered light from an exoplanetary atmosphere. *ApJ*, 673, L83–L86 {18}

—, 2011, Polarised reflected light from HD 189733 b: first multicolour observations and confirmation of detection. *ApJ*, 728, L6 {18}

Berdyugina SV, Kuhn JR, 2017, Surface imaging of Proxima Cen b and other exoplanets: topography, biosignatures, and artificial mega-structures [unpublished]. *ArXiv e-prints* {2}

Bergfors C, Brandner W, Daemgen S, et al., 2013, Stellar companions to exoplanet host stars: lucky imaging of transiting planet hosts. *MNRAS*, 428, 182–189 {24, 41, 43}

Bergfors C, Brandner W, Janson M, et al., 2011, VLT–NACO astrometry of the HR 8799 planetary system. L'-band observations of the three outer planets. *A&A*, 528, A134 {53}

Bergmann C, Endl M, Hearnshaw JB, et al., 2015, Searching for Earth-mass planets around α Cen: precise radial velocities from contaminated spectra. *Int. J. Astrobiol.*, 14, 173–176 {2}

Bernard D, Lilensten J, Barthélemy M, et al., 2014, Can hydrogen coronae be inferred around a CO_2-dominated exoplanetary atmosphere? *Icarus*, 239, 23–31 {27}

Berta ZK, Charbonneau D, Bean J, et al., 2011, The GJ 1214 super-Earth system: stellar variability, new transits, and a search for additional planets. *ApJ*, 736, 12 {23}

Berta ZK, Charbonneau D, Désert JM, et al., 2012, The flat transmission spectrum of the super-Earth GJ 1214 b from HST–WFC3. *ApJ*, 747, 35 {23}

Berta-Thompson ZK, Irwin J, Charbonneau D, et al., 2015, A rocky planet transiting a nearby low-mass star. *Nature*, 527, 204–207 {23}

Beust H, Augereau JC, Bonsor A, et al., 2014, An independent determination of Fomalhaut b's orbit and the dynamical effects on the outer dust belt. *A&A*, 561, A43 {51}

Beust H, Bonfils X, Delfosse X, et al., 2008, Dynamical evolution of the GJ 581 planetary system. *A&A*, 479, 277–282 {5}

Beust H, Bonfils X, Montagnier G, et al., 2012, Dynamical evolution of the GJ 436 planetary system: Kozai migration as a source for the eccentricity of GJ 436 b. *A&A*, 545, A88 {17}

Beust H, Bonnefoy M, Maire AL, et al., 2016, Orbital fitting of imaged planetary companions with high eccentricities and unbound orbits: their application to Fomalhaut b and PZ Tel B. *A&A*, 587, A89 {51}

Beust H, Vidal-Madjar A, Ferlet R, et al., 1994, Cometary-like bodies in the protoplanetary disk around β Pic. *Ap&SS*, 212, 147–157 {52}

Bhattacharya A, Beaulieu JP, Bennett DP, et al., 2018, WFIRST exoplanet mass-measurement method finds a planetary mass of $39 \pm 8 M_\oplus$ for OGLE–2012–BLG–0950L b. *AJ*, 156, 289 {50}

Bhattacharya A, Bennett DP, Anderson J, et al., 2017, The star blended with the MOA–2008–BLG–310 source is not the exoplanet host star. *AJ*, 154, 59 {49}

Bhattacharya A, Bennett DP, Bond IA, et al., 2016, Discovery of a gas giant planet in microlensing event OGLE–2014–BLG–1760. *AJ*, 152, 140 {50}

Bhatti W, Bakos GÁ, Hartman JD, et al., 2017, *HATS–19 b, HATS–20 b, HATS–21 b: three transiting hot-Saturns discovered by the HAT–South survey*. ApJ {26}

Bialy S, Loeb A, 2018, Could solar radiation pressure explain Oumuamua's peculiar acceleration? *ApJ*, 868, L1 {54}

Biazzo K, Gratton R, Desidera S, et al., 2015, The GAPS programme with HARPS–N at TNG. X. Differential abundances in the XO–2 planet-hosting binary. *A&A*, 583, A135 {48}

Biddle LI, Johns-Krull CM, Llama J, et al., 2018, K2 reveals pulsed accretion driven by the 2 Myr old hot Jupiter CI Tau b. *ApJ*, 853, L34 {4}

Biddle LI, Pearson KA, Crossfield IJM, et al., 2014, Warm ice giant GJ 3470 b. II. Revised planetary and stellar parameters from optical to near-infrared transit photometry. *MNRAS*, 443, 1810–1820 {17}

Biersteker J, Schlichting H, 2017, Determining exoplanetary oblateness using transit depth variations. *AJ*, 154, 164 {29, 34}

Bieryla A, Collins K, Beatty TG, et al., 2015, KELT–7 b: a hot Jupiter transiting a bright $V = 8.54$ rapidly rotating F star. *AJ*, 150, 12 {27}

Bieryla A, Hartman JD, Bakos GÁ, et al., 2014, HAT–P–49 b: a $1.7 M_{\rm J}$ planet transiting a bright $1.5 M_\odot$ F star. *AJ*, 147, 84 {26}

Biller BA, Close LM, 2007, A direct distance and luminosity determination for a self-luminous giant exoplanet: the trigonometric parallax to 2M J1207. *ApJ*, 669, L41–L44 {54}

Birkby JL, Cappetta M, Cruz P, et al., 2014, WTS–2 b: a hot Jupiter orbiting near its tidal destruction radius around a K dwarf. *MNRAS*, 440, 1470–1489 {43, 47}

Birkby JL, de Kok RJ, Brogi M, et al., 2013, Detection of water absorption in the dayside atmosphere of HD 189733 b using ground-based high-resolution spectroscopy at 3.2 μm. *MNRAS*, 436, L35–L39 {18}

—, 2017, Discovery of water at high spectral resolution in the atmosphere of 51 Peg b. *AJ*, 153, 138 {4}

Bisikalo DV, Cherenkov AA, Shematovich VI, et al., 2018, The influence of a stellar flare on the dynamical state of the atmosphere of the exoplanet HD 209458 b. *Astronomy Reports*, 62, 648–653 {21}

Bisikalo DV, Kaigorodov PV, Konstantinova NI, 2015, The maximum size of a stationary, quasi-closed gaseous envelope around the hot Jupiter WASP–12 b. *Astronomy Reports*, 59, 829–835 {43}

Bisikalo DV, Kaygorodov P, Ionov D, et al., 2013, Three-dimensional gas dynamic simulation of the interaction between WASP–12 b and its host star. *ApJ*, 764, 19 {43}

Bixel A, Apai D, 2017, Probabilistic constraints on the mass and composition of Proxima Cen b. *ApJ*, 836, L31 {2}

Blank DL, Feliz D, Collins KA, et al., 2018, A multi-year search for transits of Proxima Cen. I. Light curves corresponding to published ephemerides. *AJ*, 155, 228 {2}

Blecic J, Dobbs-Dixon I, Greene T, 2017, The implications of 3d thermal structure on 1d atmospheric retrieval. *ApJ*, 848, 127 {19}

Blecic J, Harrington J, Madhusudhan N, et al., 2013, Thermal emission of WASP–14 b revealed with three Spitzer eclipses. *ApJ*, 779, 5 {43}

—, 2014, Spitzer observations of the thermal emission from WASP–43 b. *ApJ*, 781, 116 {45}

Blunt S, Nielsen EL, De Rosa RJ, et al., 2017, Orbits for the impatient: a Bayesian rejection-sampling method for quickly fitting the orbits of long-period exoplanets. *AJ*, 153, 229 {51}

Boccaletti A, Augereau J, Baudoz P, et al., 2009, VLT–NACO coronagraphic observations of fine structures in the disk of β Pic. *A&A*, 495, 523–535 {52}

Boccaletti A, Lagrange AM, Bonnefoy M, et al., 2013, Independent confirmation of β Pic b imaging with NICI. *A&A*, 551, L14 {52}

Bochinski JJ, Haswell CA, Marsh TR, et al., 2015, Direct evidence for an evolving dust cloud from the exoplanet KIC–12557548 b. *ApJ*, 800, L21 {36}

Bodenheimer P, Laughlin G, Lin DNC, 2003, On the radii of extrasolar giant planets. *ApJ*, 592, 555–563 {8, 11, 13, 19}

Bodenheimer P, Lissauer JJ, 2014, Accretion and evolution of $\sim 2.5 M_{\rm Earth}$ planets with voluminous H/He envelopes. *ApJ*, 791, 103 {27}

Bodman EHL, Quillen A, 2016, KIC–8462852: transit of a large comet family. *ApJ*, 819, L34 {36}

Bodman EHL, Wright JT, Desch SJ, et al., 2018, Inferring the composition of disintegrating planet interiors from dust tails with future JWST observations. *AJ*, 156, 173 {37}

Bois E, Kiseleva-Eggleton L, Rambaux N, et al., 2003, Conditions of dynamical stability for the HD 160691 planetary system. *ApJ*, 598, 1312–1320 {1}

Boisse I, Bouchy F, Hébrard G, et al., 2011, Disentangling between stellar activity and planetary signals. *A&A*, 528, A4 {5, 14, 18, 22}

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Boisse I, Eggenberger A, Santos NC, et al., 2010, The SOPHIE search for northern extrasolar planets. III. A Jupiter-mass companion around HD 109246. *A&A*, 523, A88 {10}
Boisse I, Hartman JD, Bakos GÁ, et al., 2013, HAT–P–42 b and HAT–P–43 b: two inflated transiting hot Jupiters from the HATNet survey. *A&A*, 558, A86 {26}
Boisse I, Moutou C, Vidal-Madjar A, et al., 2009, Stellar activity of planetary host star HD 189733. *A&A*, 495, 959–966 {18}
Boisse I, Pepe F, Perrier C, et al., 2012, The SOPHIE search for northern extrasolar planets. V. Follow-up of ELODIE candidates: Jupiter-analogues around Sun-like stars. *A&A*, 545, A55 {7, 9, 11, 13}
Boley AC, Helled R, Payne MJ, 2011, The heavy-element composition of disk instability planets can range from sub- to super-nebular. *ApJ*, 735, 30 {16, 18, 25}
Boley AC, Payne MJ, Corder S, et al., 2012, Constraining the planetary system of Fomalhaut using high-resolution ALMA observations. *ApJ*, 750, L21 {51}
Bolin BT, Weaver HA, Fernandez YR, et al., 2018, APO time-resolved colour photometry of highly elongated interstellar object Oumuamua. *ApJ*, 852, L2 {54}
Bolmont E, Raymond SN, Leconte J, et al., 2015, Mercury-T: a new code to study tidally evolving multi-planet systems. Applications to Kepler–62. *A&A*, 583, A116 {30}
Bolmont E, Raymond SN, von Paris P, et al., 2014, Formation, tidal evolution, and habitability of the Kepler–186 system. *ApJ*, 793, 3 {33}
Bolmont E, Selsis F, Owen JE, et al., 2017, Water loss from terrestrial planets orbiting ultracool dwarfs: implications for the planets of TRAPPIST–1. *MNRAS*, 464, 3728–3741 {40}
Bolmont E, Selsis F, Raymond SN, et al., 2013, Tidal dissipation and eccentricity pumping: implications for the depth of the secondary eclipse of 55 Cnc e. *A&A*, 556, A17 {16}
Bonavita M, Chauvin G, Boccaletti A, et al., 2010, Searching for the sub-stellar companions in the LkCa 15 protoplanetary disk. *A&A*, 522, A2 {54}
Bond IA, 2012, The first extrasolar planet detected via gravitational microlensing. *New Astron. Rev.*, 56, 25–32 {49}
Bond IA, Bennett DP, Sumi T, et al., 2017, The lowest mass ratio planetary microlens: OGLE–2016–BLG–1195L b. *MNRAS*, 469, 2434–2440 {50}
Bond IA, Udalski A, Jaroszyński M, et al., 2004, OGLE–2003–BLG–235 (MOA–2003–BLG–53): a planetary microlensing event. *ApJ*, 606, L155–L158 {49}
Boneberg DM, Facchini S, Clarke CJ, et al., 2018, The extremely truncated circumstellar disk of V410 X-ray 1: a precursor to TRAPPIST–1? *MNRAS*, 477, 325–334 {40}
Boneberg DM, Panić O, Haworth TJ, et al., 2016, Determining the mid-plane conditions of circumstellar disks using gas and dust modelling: a study of HD 163296. *MNRAS*, 461, 385–401 {11}
Bonfils X, Almenara JM, Cloutier R, et al., 2018a, Radial velocity follow-up of GJ 1132 with HARPS: a precise mass for planet b and the discovery of a second planet. *A&A*, 618, A142 {23}
Bonfils X, Astudillo-Defru N, Díaz R, et al., 2018b, A temperate exo-Earth around a quiet M dwarf at 3.4 pc. *A&A*, 613, A25 {4}
Bonfils X, Delfosse X, Udry S, et al., 2013a, The HARPS search for southern extrasolar planets. XXXI. The M-dwarf sample. *A&A*, 549, A109 {5}
Bonfils X, Forveille T, Delfosse X, et al., 2005, The HARPS search for southern extrasolar planets. VI. A Neptune-mass planet around the nearby M dwarf GJ 581. *A&A*, 443, L15–L18 {5}
Bonfils X, Gillon M, Forveille T, et al., 2011, A short-period super-Earth orbiting the M2.5 dwarf GJ 3634: detection with HARPS velocimetry and transit search with Spitzer photometry. *A&A*, 528, A111 {6}
Bonfils X, Gillon M, Udry S, et al., 2012, A hot Uranus transiting the nearby M dwarf GJ 3470 detected with HARPS velocimetry, captured in transit with TRAPPIST photometry. *A&A*, 546, A27 {17}
Bonfils X, Lo Curto G, Correia ACM, et al., 2013b, The HARPS search for southern extrasolar planets. XXXIV. A planetary system around the nearby M dwarf GJ 163, with a super-Earth possibly in the habitable zone. *A&A*, 556, A110 {4}
Bonfils X, Mayor M, Delfosse X, et al., 2007, The HARPS search for southern extrasolar planets. X. An $11M_\oplus$ planet around the nearby spotted M dwarf GJ 674. *A&A*, 474, 293–299 {5}
Bonnefoy M, Boccaletti A, Lagrange AM, et al., 2013, The near-infrared energy distribution of β Pic b. *A&A*, 555, A107 {52}
Bonnefoy M, Chauvin G, Rojo P, et al., 2010, Near-infrared integral-field spectra of the planet/brown dwarf companion AB Pic b. *A&A*, 512, A52 {52}
Bonnefoy M, Currie T, Marleau GD, et al., 2014a, Characterisation of the gaseous companion κ And b: new Keck and LBTI high-contrast observations. *A&A*, 562, A111 {51}
Bonnefoy M, Lagrange AM, Boccaletti A, et al., 2011, High angular resolution detection of β Pic b at 2.18 μm. *A&A*, 528, L15 {52}
Bonnefoy M, Marleau GD, Galicher R, et al., 2014b, Physical and orbital properties of β Pic b. *A&A*, 567, L9 {52}
Bonnefoy M, Perraut K, Lagrange AM, et al., 2018, The GJ 504 system revisited: combining interferometric, radial velocity, and high contrast imaging data. *A&A*, 618, A63 {52}
Bonnefoy M, Zurlo A, Baudino JL, et al., 2016, First light of the VLT planet finder SPHERE. IV. Physical and chemical properties of the planets around HR 8799. *A&A*, 587, A58 {53}
Bonomo AS, Desidera S, Benatti S, et al., 2017a, The GAPS Programme with HARPS-N at TNG. XIV. Investigating giant planet migration history via improved eccentricity and mass determination for 231 transiting planets. *A&A*, 602, A107 {21, 22, 23, 25, 41, 46}
Bonomo AS, Hébrard G, Raymond SN, et al., 2017b, A deeper view of the CoRoT–9 planetary system: a small non-zero eccentricity for CoRoT–9 b likely generated by planet–planet scattering. *A&A*, 603, A43 {22}
Bonomo AS, Hébrard G, Santerne A, et al., 2012, SOPHIE velocimetry of Kepler transit candidates. V. The three hot Jupiters KOI–135 b (Kepler–43 b), KOI–204 b (Kepler–44 b), and KOI–203 b (Kepler–17 b). *A&A*, 538, A96 {28, 30}
Bonomo AS, Lanza AF, 2012, Star spot activity and rotation of the planet-hosting star Kepler–17. *A&A*, 547, A37 {28}
Bonomo AS, Santerne A, Alonso R, et al., 2010, Transiting exoplanets from the CoRoT space mission. X. CoRoT–10 b: a giant planet in a 13.24 day eccentric orbit. *A&A*, 520, A65 {22}
Bonomo AS, Sozzetti A, Lovis C, et al., 2014, Characterisation of the planetary system Kepler–101 with HARPS-N: a hot super-Neptune with an Earth-sized low-mass companion. *A&A*, 572, A2 {32}
Bonomo AS, Sozzetti A, Santerne A, et al., 2015, Improved parameters of seven Kepler giant companions characterised with SOPHIE and HARPS–N. *A&A*, 575, A85 {29, 30, 31, 35}
Bonsor A, Kennedy GM, Crepp JR, et al., 2013, Spatially resolved images of dust belt(s) around the planet-hosting subgiant κ CrB. *MNRAS*, 431, 3025–3035 {3}
Booth AS, Walsh C, Kama M, et al., 2018, Sulphur monoxide exposes a potential molecular disk wind from the planet-hosting disk around HD 100546. *A&A*, 611, A16 {53}
Booth M, Dent WRF, Jordán A, et al., 2017, The northern arc of the ϵ Eri debris ring as seen by ALMA. *MNRAS*, 469, 3200–3212 {3}
Booth M, Jordán A, Casassus S, et al., 2016, Resolving the planetesimal belt of HR 8799 with ALMA. *MNRAS*, 460, L10–L14 {53}
Bordé PJ, Bouchy F, Deleuil M, et al., 2010, Transiting exoplanets from the CoRoT space mission. XI. CoRoT–8 b: a hot and dense sub-Saturn around a K1 dwarf. *A&A*, 520, A66 {22}
Borgniet S, Boisse I, Lagrange AM, et al., 2014, Extrasolar planets and brown dwarfs around A-F type stars. VIII. A giant planet orbiting the young star HD 113337. *A&A*, 561, A65 {10}
Borgniet S, Lagrange AM, Meunier N, et al., 2017, Extrasolar planets and brown dwarfs around AF-type stars. IX. The HARPS southern sample. *A&A*, 599, A57 {10}
Borkovits T, Csizmadia S, Forgács-Dajka E, et al., 2011, Transit timing variations in eccentric hierarchical triple exoplanetary systems. I. Perturbations on the time scale of the orbital period of the perturber. *A&A*, 528, A53 {17, 22}
Borsa F, Rainer M, Poretti E, 2016, Chromatic line-profile tomography to reveal exoplanetary atmospheres: application to HD 189733 b. *A&A*, 590, A84 {19}
Borsa F, Scandariato G, Rainer M, et al., 2015, The GAPS programme with HARPS–N at TNG. VII. Putting exoplanets in the stellar context: magnetic activity and asteroseismology of τ Boo A. *A&A*, 578, A64 {2}
Borsato L, Marzari F, Nascimbeni V, et al., 2014, TRADES: a new software to derive orbital parameters from observed transit times and radial velocities: revisiting Kepler–11 and Kepler–9. *A&A*, 571, A38 {27, 28}
Borucki WJ, Agol E, Fressin F, et al., 2013, Kepler–62: a five-planet system with planets of 1.4 and $1.6R_\oplus$ in the habitable zone. *Science*, 340, 587–590 {30}
Borucki WJ, Koch D, Jenkins J, et al., 2009, Kepler's optical phase curve of the exoplanet HAT–P–7 b. *Science*, 325, 709– {24}
Borucki WJ, Koch DG, Basri G, et al., 2011, Characteristics of planetary candidates observed by Kepler. II. Analysis of the first four months. *ApJ*, 736, 19 {28}
Borucki WJ, Koch DG, Batalha N, et al., 2012, Kepler–22 b: a $2.4R_\oplus$ planet in the habitable zone of a Sun-like star. *ApJ*, 745, 120 {28}
Borucki WJ, Koch DG, Brown TM, et al., 2010, Kepler–4 b: a hot Neptune-like planet of a G0 star near main-sequence turnoff. *ApJ*, 713, L126–L130 {27}
Boss AP, 2011, Formation of giant planets by disk instability on wide orbits around protostars with varied masses. *ApJ*, 731, 74 {51, 53}
Boss AP, Weinberger AJ, Keiser SA, et al., 2017, Astrometric constraints on the masses of long-period gas giant planets in the TRAPPIST–1 planetary system. *AJ*, 154, 103 {40}
Bott K, Bailey J, Cotton DV, et al., 2018, The polarisation of the planet-hosting WASP–18 system. *AJ*, 156, 293 {44}
Bott K, Bailey J, Kedziora-Chudczer L, et al., 2016, The polarisation of HD 189733. *MNRAS*, 459, L109–L113 {19}
Bouchy F, Bazot M, Santos NC, et al., 2005a, Asteroseismology of the planet-hosting star μ Ara. I. The acoustic spectrum. *A&A*, 440, 609–614 {1}
Bouchy F, Bonomo AS, Santerne A, et al., 2011a, SOPHIE velocimetry of Kepler transit candidates. III. KOI–423 b: an $18M_J$ transiting companion. *A&A*, 533, A83 {29}
Bouchy F, Deleuil M, Guillot T, et al., 2011b, Transiting exoplanets from the CoRoT space mission. XV. CoRoT–15 b: a brown-dwarf transiting companion. *A&A*, 525, A68 {22}
Bouchy F, Hebb L, Skillen I, et al., 2010, WASP–21 b: a hot-Saturn exoplanet transiting a thick disk star. *A&A*, 519, A98 {44}
Bouchy F, Mayor M, Lovis C, et al., 2009, The HARPS search for southern extrasolar planets. XVII. Super-Earth and Neptune-mass planets in multiple planet systems HD 47186 and HD 181433. *A&A*, 496, 527–531 {8, 12}
Bouchy F, Pont F, Santos NC, et al., 2004, Two new very hot Jupiters among the OGLE transiting candidates. *A&A*, 421, L13–L16 {39}
Bouchy F, Queloz D, Deleuil M, et al., 2008, Transiting exoplanets from the CoRoT space mission. III. The spectroscopic transit of CoRoT–2 b with SOPHIE and HARPS. *A&A*, 482, L25–L28 {21}
Bouchy F, Udry S, Mayor M, et al., 2005b, ELODIE metallicity-biased search for transiting hot Jupiters. II. A very hot Jupiter transiting the bright K star HD 189733. *A&A*, 444, L15–L19 {18}
Boufleur RC, Emilio M, Janot-Pacheco E, et al., 2018, A modified CoRoT detrend algorithm and the discovery of a new planetary companion. *MNRAS*, 473, 710–720 {23}
Bourne R, Gary BL, Plakhov A, 2018, Recent photometric monitoring of KIC–8462852, the detection of a potential repeat of the Kepler day 1540 dip and a plausible model. *MNRAS*, 475, 5378–5384 {36}
Bourrier V, Cegla HM, Lovis C, et al., 2017a, Refined architecture of the WASP–8 system: a cautionary tale for traditional Rossiter–McLaughlin analysis. *A&A*, 599, A33 {42}
Bourrier V, de Wit J, Bolmont E, et al., 2017b, Temporal evolution of the high-energy irradiation and water content of TRAPPIST–1 exoplanets. *AJ*, 154, 121 {40}

Published by Cambridge University Press, ISBN 9781108419772

Bourrier V, Dumusque X, Dorn C, et al., 2018a, The 55 Cnc system reassessed. *A&A*, 619, A1 {16}

Bourrier V, Ehrenreich D, Allart R, et al., 2017c, Strong HI Lyman-α variations from an 11 Gyr-old host star: a planetary origin? *A&A*, 602, A106 {35}

Bourrier V, Ehrenreich D, King G, et al., 2017d, No hydrogen exosphere detected around the super-Earth HD 97658 b. *A&A*, 597, A26 {17}

Bourrier V, Ehrenreich D, Lecavelier des Etangs A, et al., 2018b, High-energy environment of super-Earth 55 Cnc e. I. Far-UV chromospheric variability as a possible tracer of planet-induced coronal rain. *A&A*, 615, A117 {16}

Bourrier V, Ehrenreich D, Wheatley PJ, et al., 2017e, Reconnaissance of the TRAPPIST–1 exoplanet system in the Lyman-α line. *A&A*, 599, L3 {40}

Bourrier V, Hébrard G, 2014, Detecting the spin–orbit misalignment of the super-Earth 55 Cnc e. *A&A*, 569, A65 {16}

Bourrier V, Lecavelier des Etangs A, 2013, 3d model of hydrogen atmospheric escape from HD 209458 b and HD 189733 b: radiative blow-out and stellar wind interactions. *A&A*, 557, A124 {18, 20}

Bourrier V, Lecavelier des Etangs A, Dupuy H, et al., 2013, Atmospheric escape from HD 189733 b observed in H I Lyman-α: detailed analysis of HST–STIS September 2011 observations. *A&A*, 551, A63 {18}

Bourrier V, Lecavelier des Etangs A, Ehrenreich D, et al., 2016, An evaporating planet in the wind: stellar wind interactions with the radiatively braked exosphere of GJ 436 b. *A&A*, 591, A121 {17}

Bourrier V, Lecavelier des Etangs A, Hébrard G, et al., 2015a, SOPHIE velocimetry of Kepler transit candidates. XVI. Tomographic measurement of the low obliquity of KOI–12 b, a warm Jupiter transiting a fast rotator. *A&A*, 579, A55 {35}

Bourrier V, Lecavelier des Etangs A, Vidal-Madjar A, 2014, Modeling magnesium escape from HD 209458 b atmosphere. *A&A*, 565, A105 {20}

—, 2015b, The Mg I line: a new probe of the atmospheres of evaporating exoplanets. *A&A*, 573, A11 {21}

Bourrier V, Lovis C, Beust H, et al., 2018c, Orbital misalignment of the Neptune-mass exoplanet GJ 436 b with the spin of its cool star. *Nature*, 553, 477–480 {17}

Boutle IA, Mayne NJ, Drummond B, et al., 2017, Exploring the climate of Proxima Cen b with the Met Office Unified Model. *A&A*, 601, A120 {2}

Bower GC, Loinard L, Dzib S, et al., 2016, Variable radio emission from the young stellar host of a hot Jupiter. *ApJ*, 830, 107 {4}

Bowler BP, Kraus AL, Bryan ML, et al., 2017a, The young substellar companion ROXs 12 b: near-infrared spectrum, system architecture, and spin-orbit misalignment. *AJ*, 154, 165 {54}

Bowler BP, Liu MC, Dupuy TJ, et al., 2010, Near-infrared spectroscopy of the exoplanet HR 8799 b. *ApJ*, 723, 850–868 {53}

Bowler BP, Liu MC, Kraus AL, et al., 2011, A disk around the planetary-mass companion GSC 06214–00210 b: clues about the formation of gas giants on wide orbits. *ApJ*, 743, 148 {54}

—, 2014, Spectroscopic confirmation of young planetary-mass companions on wide orbits. *ApJ*, 784, 65 {54}

Bowler BP, Liu MC, Mawet D, et al., 2017b, Planets around low-mass stars (PALMS). VI. Discovery of a remarkably red planetary-mass companion to the AB Dor moving group candidate 2MASS J22362452+4751425. *AJ*, 153, 18 {54}

Bowler BP, Liu MC, Shkolnik EL, et al., 2013, Planets around low-mass stars (PALMS). III. A young dusty L dwarf companion at the deuterium-burning limit. *ApJ*, 774, 55 {53}

Boyajian TS, Alonso R, Ammerman A, et al., 2018, The first post-Kepler brightness dips of KIC–8462852. *ApJ*, 853, L8 {36}

Boyajian TS, LaCourse DM, Rappaport SA, et al., 2016, Planet Hunters. IX. KIC–8462852: where's the flux? *MNRAS*, 457, 3988–4004 {36}

Boyajian TS, von Braun K, Feiden GA, et al., 2015, Stellar diameters and temperatures. VI. High angular resolution measurements of the transiting exoplanet host stars HD 189733 and HD 209458 and implications for models of cool dwarfs. *MNRAS*, 447, 846–857 {19, 21}

Boyajian TS, von Braun K, van Belle G, et al., 2013, Stellar diameters and temperatures. III. Main-sequence A, F, G, and K stars: additional high-precision measurements and empirical relations. *ApJ*, 771, 40 {7, 13}

Bozorgnia N, Fortney JJ, McCarthy C, et al., 2006, The search for an atmospheric signature of the transiting exoplanet HD 149026 b. *PASP*, 118, 1249–1256 {17}

Brady MT, Petigura EA, Knutson HA, et al., 2018, Kepler–1656 b: a dense sub-Saturn with an extreme eccentricity. *AJ*, 156, 147 {36}

Brahm R, Espinoza N, Jordán A, et al., 2018a, K2–232 b: a transiting warm Saturn on an eccentric P=11.2-d orbit around a V=9.9 star. *MNRAS*, 477, 2572–2581 {38}

Brahm R, Hartman JD, Jordán A, et al., 2018b, HATS–43 b, HATS–44 b, HATS–45 b, and HATS–46 b: four short-period transiting giant planets in the Neptune–Jupiter mass range. *AJ*, 155, 112 {26}

Brahm R, Jones M, Espinoza N, et al., 2016a, An independent discovery of two hot Jupiters from the K2 mission. *PASP*, 128(12), 124402 {37}

Brahm R, Jordán A, Bakos GÁ, et al., 2016b, HATS–17 b: a transiting compact warm Jupiter in a 16.3-day circular orbit. *AJ*, 151, 89 {26}

Brahm R, Jordán A, Hartman JD, et al., 2015, HATS–9 b and HATS–10 b: two compact hot Jupiters mission. *AJ*, 150, 33 {26}

Brandeker A, 2011, Exposing the gas-braking mechanism of the β Pic disk. *ApJ*, 729, 122 {52}

Brasser R, Ida S, Kokubo E, 2014, A dynamical study on the habitability of terrestrial exoplanets. II. The super-Earth HD 40307 g. *MNRAS*, 440, 3685–3700 {8}

Braviner HJ, Ogilvie GI, 2015, Tidal interactions of a Maclaurin spheroid. II. Resonant excitation of modes by a close, misaligned orbit. *MNRAS*, 447, 1141–1153 {47}

Brewer BJ, Donovan CP, 2015, Fast Bayesian inference for exoplanet discovery in radial velocity data. *MNRAS*, 448, 3206–3214 {3, 5}

Brewer JM, Fischer DA, Madhusudhan N, 2017, C/O and O/H ratios suggest some hot Jupiters originate beyond the snow line. *AJ*, 153, 83 {21}

Brittain SD, Carr JS, Najita JR, et al., 2014, NIR spectroscopy of the Herbig AeBe star HD 100546. III. Further evidence of an orbiting companion? *ApJ*, 791, 136 {53}

Broeg C, Wuchterl G, 2007, The formation of HD 149026 b. *MNRAS*, 376, L62–L66 {17}

Brogi M, de Kok RJ, Albrecht S, et al., 2016, Rotation and winds of exoplanet HD 189733 b measured with high-dispersion transmission spectroscopy. *ApJ*, 817, 106 {19}

Brogi M, de Kok RJ, Birkby JL, et al., 2014, CO and H_2O-vapour in the atmosphere of the non-transiting exoplanet HD 179949 b. *A&A*, 565, A124 {12}

Brogi M, Giacobbe P, Guilluy G, et al., 2018, Exoplanet atmospheres with GIANO. I. Water in the transmission spectrum of HD 189733 b. *A&A*, 615, A16 {19}

Brogi M, Keller CU, de Juan Ovelar M, et al., 2012a, Evidence for the disintegration of KIC–12557548 b. *A&A*, 545, L5 {36}

Brogi M, Line M, Bean J, et al., 2017, A framework to combine low- and high-resolution spectroscopy for the atmospheres of transiting exoplanets. *ApJ*, 839, L2 {21}

Brogi M, Marzari F, Paolicchi P, 2009, Dynamical stability of the inner belt around ϵ Eri. *A&A*, 499, L13–L16 {3}

Brogi M, Snellen IAG, de Kok RJ, et al., 2012b, The signature of orbital motion from the day-side of the planet τ Boo b. *Nature*, 486, 502–504 {2}

—, 2013, Detection of molecular absorption in the day-side of exoplanet 51 Peg b? *ApJ*, 767, 27 {4}

Brothwell RD, Watson CA, Hébrard G, et al., 2014, A window on exoplanet dynamical histories: Rossiter–McLaughlin observations of WASP–13 b and WASP–32 b. *MNRAS*, 440, 3392–3401 {43, 44}

Brown DJA, Collier Cameron A, Anderson DR, et al., 2012a, Rossiter–McLaughlin effect measurements for WASP–16, WASP–25 and WASP–31. *MNRAS*, 423, 1503–1520 {43, 44}

Brown DJA, Collier Cameron A, Díaz RF, et al., 2012b, Analysis of spin–orbit alignment in the WASP–32, WASP–38, and HAT–P–27/WASP–40 systems. *ApJ*, 760, 139 {25, 44, 45}

Brown DJA, Collier Cameron A, Hall C, et al., 2011, Are falling planets spinning up their host stars? *MNRAS*, 415, 605–618 {43, 44}

Brown DJA, Triaud AHMJ, Doyle AP, et al., 2017, Rossiter–McLaughlin models and their effect on estimates of stellar rotation, illustrated using six WASP systems. *MNRAS*, 464, 810–839 {46}

Brown RA, 2017, On the eccentricity of Proxima Cen b. *ApJ*, 844, 100 {2}

Brown TM, 2001, Transmission spectra as diagnostics of extrasolar giant planet atmospheres. *ApJ*, 553, 1006–1026 {19}

Brown TM, Charbonneau D, Gilliland RL, et al., 2001, HST time-series photometry of the transiting planet of HD 209458. *ApJ*, 552, 699–709 {19}

Brown TM, Kotak R, Horner SD, et al., 1998a, Exoplanets or dynamic atmospheres? The radial velocity and line shape variations of 51 Peg and τ Boo. *ApJS*, 117, 563–585 {2, 3}

—, 1998b, A search for line shape and depth variations in 51 Peg and τ Boo. *ApJ*, 494, L85–L88 {1, 3}

Brown TM, Libbrecht KG, Charbonneau D, 2002, A search for CO absorption in the transmission spectrum of HD 209458 b. *PASP*, 114, 826–832 {19}

Brucalassi A, Koppenhoefer J, Saglia R, et al., 2017, Search for giant planets in M67. IV. Survey results. *A&A*, 603, A85 {14}

Brucalassi A, Pasquini L, Saglia R, et al., 2014, Three planetary companions around M67 stars. *A&A*, 561, L9 {14}

—, 2016, Search for giant planets in M67. III. Excess of hot Jupiters in dense open clusters. *A&A*, 592, L1 {14}

Brugger B, Mousis O, Deleuil M, et al., 2016, Possible internal structures and compositions of Proxima Cen b. *ApJ*, 831, L16 {2}

—, 2017, Constraints on super-Earth interiors from stellar abundances. *ApJ*, 850, 93 {2, 22, 27}

Bruno G, Almenara JM, Barros SCC, et al., 2015, SOPHIE velocimetry of Kepler transit candidates. XIV. A joint photometric, spectroscopic, and dynamical analysis of the Kepler–117 system. *A&A*, 573, A124 {32}

Bruno G, Deleuil M, Almenara JM, et al., 2016, Disentangling planetary and stellar activity features in the CoRoT–2 light curve. *A&A*, 595, A89 {22}

Bruno G, Lewis NK, Stevenson KB, et al., 2018a, A comparative study of WASP–67 b and HAT–P–38 b from HST–WFC3 data. *AJ*, 155, 55 {26, 46}

—, 2018b, Star spot occultations in infrared transit spectroscopy: the case of WASP–52 b. *AJ*, 156, 124 {46}

Bruntt H, Deleuil M, Fridlund M, et al., 2010, Improved stellar parameters of CoRoT–7: a star hosting two super Earths. *A&A*, 519, A51 {22}

Bryan ML, Alsubai KA, Latham DW, et al., 2012, Qatar–2: a K dwarf orbited by a transiting hot Jupiter and a more massive companion in an outer orbit. *ApJ*, 750, 84 {39}

Bryan ML, Benneke B, Knutson HA, et al., 2018, Constraints on the spin evolution of young planetary-mass companions. *Nature Astronomy*, 2, 138–144 {29}

Bryan ML, Bowler BP, Knutson HA, et al., 2016a, Searching for scatterers: high-contrast imaging of young stars hosting wide-separation planetary-mass companions. *ApJ*, 827, 100 {54}

Bryan ML, Knutson HA, Howard AW, et al., 2016b, Statistics of long-period gas giant planets in known planetary systems. *ApJ*, 821, 89 {7, 9, 10, 11}

Buchhave LA, Bakos GÁ, Hartman JD, et al., 2010, HAT–P–16 b: a 4 Jupiter-mass planet transiting a bright star on an eccentric orbit. *ApJ*, 720, 1118–1125 {25}

—, 2011a, HAT–P–28 b and HAT–P–29 b: two sub-Jupiter mass transiting planets. *ApJ*, 733, 116 {25}

Buchhave LA, Dressing CD, Dumusque X, et al., 2016, A 1.9$R_\oplus$ rocky planet and the discovery of a non-transiting planet in the Kepler–20 system. *AJ*, 152, 160 {28}

Buchhave LA, Latham DW, Carter JA, et al., 2011b, Kepler–14 b: a massive hot Jupiter transiting an F star in a close visual binary. *ApJS*, 197, 3 {28}

Budaj J, 2011, The reflection effect in interacting binaries or in planet–star systems. *AJ*, 141, 59 {18, 42, 43, 44}

—, 2013, Light-curve analysis of KIC–12557548 b: an extrasolar planet with a comet-like tail. *A&A*, 557, A72 {36}

—, 2014, Light-curve analysis of KIC–12557548 b: an exoplanet with a comet-like tail. *Contributions of the Astronomical Observatory Skalnate Pleso*, 43, 409–409 {36}

Budding E, Püsküllü Ç, Rhodes MD, 2018, Analysis of the exoplanet containing sys-

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tem Kepler–13. *Ap&SS*, 363, 60 {28}
Budding E, Püsküllü Ç, Rhodes MD, et al., 2016a, Analysis of the exoplanet containing system Kepler–91. *Ap&SS*, 361, 17 {31}
Budding E, Rhodes MD, Püsküllü Ç, et al., 2016b, Photometric analysis of the system Kepler–1. *Ap&SS*, 361, 346 {41}
Buhler PB, Knutson HA, Batygin K, et al., 2016, Dynamical constraints on the core mass of hot Jupiter HAT–P–13 b. *ApJ*, 821, 26 {25}
Bundy KA, Marcy GW, 2000, A search for transit effects in spectra of 51 Peg and HD 209458. *PASP*, 112, 1421–1425 {3, 19}
Burdanov A, Benni P, Sokov E, et al., 2018, KPS–1 b: the first transiting exoplanet discovered using an amateur astronomer's wide-field CCD data. *PASP*, 130(7), 074401 {38}
Burgasser AJ, 2007, The physical properties of HD 3651 b: an extrasolar nemesis? *ApJ*, 658, 617–621 {6}
Burgasser AJ, Simcoe RA, Bochanski JJ, et al., 2010, Clouds in the coldest brown dwarfs: FIRE spectroscopy of Ross 458C. *ApJ*, 725, 1405–1420 {54}
Burke CJ, McCullough PR, Bergeron LE, et al., 2010, NICMOS observations of the transiting hot Jupiter XO–1 b. *ApJ*, 719, 1796–1806 {47}
Burke CJ, McCullough PR, Valenti JA, et al., 2007, XO–2 b: transiting hot Jupiter in a metal-rich common proper motion binary. *ApJ*, 671, 2115–2128 {48}
—, 2008, XO–5 b: a transiting Jupiter-sized planet with a 4-day period. *ApJ*, 686, 1331–1340 {48}
Burkhart B, Loeb A, 2017, The detectability of radio auroral emission from Proxima Cen b. *ApJ*, 849, L10 {2}
Burningham B, Leggett SK, Homeier D, et al., 2011, The properties of the T8.5p dwarf Ross 458C. *MNRAS*, 414, 3590–3598 {54}
Burrows A, Hubeny I, Budaj J, et al., 2007, Theoretical spectral models of the planet HD 209458 b with a thermal inversion and water emission bands. *ApJ*, 668, L171–L174 {20}
Burrows A, Hubeny I, Hubbard WB, et al., 2004, Theoretical radii of transiting giant planets: the case of OGLE–TR–56 b. *ApJ*, 610, L53–L56 {39}
Burrows A, Hubeny I, Sudarsky D, 2005, A theoretical interpretation of the measurements of the secondary eclipses of TrES–1 and HD 209458 b. *ApJ*, 625, L135–L138 {20, 40}
Burrows A, Ibgui L, Hubeny I, 2008, Optical albedo theory of strongly irradiated giant planets: the case of HD 209458 b. *ApJ*, 682, 1277–1282 {20}
Burrows A, Rauscher E, Spiegel DS, et al., 2010, Photometric and spectral signatures of three-dimensional models of transiting giant exoplanets. *ApJ*, 719, 341–350 {20}
Burrows A, Sudarsky D, Hubbard WB, 2003, A theory for the radius of the transiting giant planet HD 209458 b. *ApJ*, 594, 545–551 {19}
Burt J, Vogt SS, Butler RP, et al., 2014, The Lick–Carnegie exoplanet survey: GJ 687 b: a Neptune-mass planet orbiting a nearby red dwarf. *ApJ*, 789, 114 {5}
Burton JR, Watson CA, Fitzsimmons A, et al., 2014, Tidally distorted exoplanets: density corrections for short-period hot-Jupiters based solely on observable parameters. *ApJ*, 789, 113 {44}
Burton JR, Watson CA, Littlefair SP, et al., 2012, z'-band ground-based detection of the secondary eclipse of WASP–19 b. *ApJS*, 201, 36 {44}
Burton JR, Watson CA, Rodríguez-Gil P, et al., 2015, Defocused transmission spectroscopy: a potential detection of sodium in the atmosphere of WASP–12 b. *MNRAS*, 446, 1071–1082 {43}
Butler RP, Howard AW, Vogt SS, et al., 2009, Non-detection of the Neptune-mass planet reported around GJ 176. *ApJ*, 691, 1738–1743 {13}
Butler RP, Johnson JA, Marcy GW, et al., 2006a, A long-period Jupiter-mass planet orbiting the nearby M dwarf GJ 849. *PASP*, 118, 1685–1689 {5}
Butler RP, Marcy GW, 1996, A planet orbiting 47 UMa. *ApJ*, 464, L153–156 {4}
Butler RP, Marcy GW, Fischer DA, et al., 1999, Evidence for multiple companions to υ And. *ApJ*, 526, 916–927 {1}
Butler RP, Marcy GW, Vogt SS, et al., 1998, A planet with a 3.1 d period around a solar twin. *PASP*, 110, 1389–1393 {12}
—, 2002, On the double-planet system around HD 83443. *ApJ*, 578, 565–572 {9}
—, 2003, Seven new Keck planets orbiting G and K dwarfs. *ApJ*, 582, 455–466 {3, 7, 8, 9, 10}
Butler RP, Marcy GW, Williams E, et al., 1997, Three new 51 Peg-type planets. *ApJ*, 474, L115–L118 {1, 16}
Butler RP, Tinney CG, Marcy GW, et al., 2001, Two new planets from the Anglo–Australian planet search. *ApJ*, 555, 410–417 {1, 7}
Butler RP, Vogt SS, Laughlin G, et al., 2017, The LCES Keck–HIRES precision radial velocity exoplanet survey. *AJ*, 153, 208 {4}
Butler RP, Vogt SS, Marcy GW, et al., 2000, Planetary companions to the metal-rich stars BD–10 3166 and HD 52265. *ApJ*, 545, 504–511 {4, 8}
—, 2004, A Neptune-mass planet orbiting the nearby M dwarf GJ 436. *ApJ*, 617, 580–588 {16}
Butler RP, Wright JT, Marcy GW, et al., 2006b, Catalogue of nearby exoplanets. *ApJ*, 646, 505–522 {6, 7, 8, 9, 10, 11, 13}
Bychkov VD, Bychkova LV, Topilskaya GP, et al., 2018, Orbit orientation of the planet in τ Boo (HD 120136). *Astrophysical Bulletin*, 73, 466–470 {2}
Cañas CI, Bender CF, Mahadevan S, et al., 2018, Kepler–503 b: an object at the hydrogen burning mass limit orbiting a subgiant star. *ApJ*, 861, L4 {35}
Cabrera J, Barros SCC, Armstrong D, et al., 2017, Disproving the validated planets K2-78b, K2-82b, and K2-92b. The importance of independently confirming planetary candidates. *A&A*, 606, A75 {38}
Cabrera J, Bruntt H, Ollivier M, et al., 2010, Transiting exoplanets from the CoRoT space mission. XIII. CoRoT–13 b: a dense hot Jupiter in transit around a star with solar metallicity and super-solar lithium content. *A&A*, 522, A110 {22}
Cabrera J, Csizmadia S, Lehmann H, et al., 2014, The planetary system to KIC–11442793: a compact analogue to the solar system. *ApJ*, 781, 18 {31}
Cabrera J, Csizmadia S, Montagnier G, et al., 2015, Transiting exoplanets from the CoRoT space mission. XXVII. CoRoT–28 b, a planet orbiting an evolved star, and CoRoT–29 b, a planet showing an asymmetric transit. *A&A*, 579, A36 {22, 23}
Cáceres C, Ivanov VD, Minniti D, et al., 2009, High cadence near infrared timing observations of extrasolar planets. I. GJ 436 b and XO–1 b. *A&A*, 507, 481–486 {16, 47}
—, 2011, A ground-based Ks-band detection of the thermal emission from the transiting exoplanet WASP–4 b. *A&A*, 530, A5 {42}
Cáceres C, Kabath P, Hoyer S, et al., 2014, Ground-based transit observations of the super-Earth GJ 1214 b. *A&A*, 565, A7 {23}
Calchi Novati S, Skowron J, Jung YK, et al., 2018, Spitzer opens new path to break classic degeneracy for Jupiter-mass microlensing planet OGLE–2017–BLG–1140L b. *AJ*, 155, 261 {50}
Callegari N, Rodríguez Á, 2013, Dynamics of rotation of super-Earths. *Cel. Mech. Dyn. Astron.*, 116, 389–416 {16}
Campanella G, 2011, Treating dynamical stability as an observable: a 5:2 mean motion resonance configuration for the extrasolar system HD 181433. *MNRAS*, 418, 1028–1038 {12}
Campanella G, Nelson RP, Agnor CB, 2013, Possible scenarios for eccentricity evolution in the extrasolar planetary system HD 181433. *MNRAS*, 433, 3190–3207 {12}
Campante TL, Barclay T, Swift JJ, et al., 2015, An ancient extrasolar system with five sub-Earth-size planets. *ApJ*, 799, 170 {35}
Campante TL, Lund MN, Kuszlewicz JS, et al., 2016, Spin–orbit alignment of exoplanet systems: ensemble analysis using asteroseismology. *ApJ*, 819, 85 {24, 29, 30}
Campante TL, Veras D, North TSH, et al., 2017, Weighing in on the masses of retired A stars with asteroseismology: K2 observations of the exoplanet-host star HD 212771. *MNRAS*, 469, 1360–1368 {13}
Campbell B, Walker GAH, Yang S, 1988, A search for substellar companions to solar-type stars. *ApJ*, 331, 902–921 {2}
Campo CJ, Harrington J, Hardy RA, et al., 2011, On the orbit of exoplanet WASP–12 b. *ApJ*, 727, 125 {42}
Cappetta M, Saglia RP, Birkby JL, et al., 2012, The first planet detected in the WTS: an inflated hot Jupiter in a 3.35-d orbit around a late F star. *MNRAS*, 427, 1877–1890 {47}
Carleo I, Benatti S, Lanza AF, et al., 2018, Multi-band high resolution spectroscopy rules out the hot Jupiter BD+20 1790 b: first data from the GIARPS commissioning. *A&A*, 613, A50 {4}
Carney MT, Hogerheijde MR, Loomis RA, et al., 2017, Increased H_2CO production in the outer disk around HD 163296. *A&A*, 605, A21 {11}
Carone L, Keppens R, Decin L, 2014, Connecting the dots: a versatile model for the atmospheres of tidally-locked super-Earths. *MNRAS*, 445, 930–945 {5}
Carone L, Keppens R, Decin L, et al., 2018, Stratosphere circulation on tidally locked exo-Earths. *MNRAS*, 473, 4672–4685 {2, 5, 40}
Carone L, Pätzold M, 2007, Constraints on the tidal dissipation factor of a main sequence star: the case of OGLE–TR–56 b. *Planet. Space Sci.*, 55, 643–650 {39}
Carpintero DD, Melita M, 2018, An alternative stable solution for the Kepler–419 system, obtained with the use of a genetic algorithm. *A&A*, 620, A88 {34}
Carson J, Thalmann C, Janson M, et al., 2013, Direct imaging discovery of a super-Jupiter around the late B-type star κ And. *ApJ*, 763, L32 {51}
Carter BD, Butler RP, Tinney CG, et al., 2003, A planet in a circular orbit with a 6-yr period. *ApJ*, 593, L43–L46 {9}
Carter JA, Agol E, Chaplin WJ, et al., 2012, Kepler–36: a pair of planets with neighbouring orbits and dissimilar densities. *Science*, 337, 556–559 {29}
Carter JA, Winn JN, Gilliland R, et al., 2009, Near-infrared transit photometry of the exoplanet HD 149026 b. *ApJ*, 696, 241–253 {17}
Carter JA, Winn JN, Holman MJ, et al., 2011, The Transit Light Curve Project. XIII. Sixteen transits of the super-Earth GJ 1214 b. *ApJ*, 730, 82 {23}
Carter-Bond JC, O'Brien DP, Raymond SN, 2012, The compositional diversity of extrasolar terrestrial planets. II. Migration simulations. *ApJ*, 760, 44 {6, 7, 13}
Cartier KMS, Beatty TG, Zhao M, et al., 2017, Near-infrared emission spectrum of WASP–103 b using HST–WFC3. *AJ*, 153, 34 {47}
Casasayas-Barris N, Palle E, Nowak G, et al., 2017, Detection of sodium in the atmosphere of WASP–69 b. *A&A*, 608, A135 {19, 46}
Casasayas-Barris N, Pallé E, Yan F, et al., 2018, Na I and Hα absorption features in the atmosphere of KELT–20 b (MASCARA–2 b). *A&A*, 616, A151 {27}
Castan T, Menou K, 2011, Atmospheres of hot super-Earths. *ApJ*, 743, L36 {16, 22, 27}
Castelaz M, Barker T, 2018, KIC–8462852: Maria Mitchell Observatory photographic photometry 1922 to 1991. *Journal of the American Association of Variable Star Observers (JAAVSO)*, 46, 33 {36}
Castellano T, Jenkins J, Trilling DE, et al., 2000, Detection of planetary transits of the star HD 209458 in the Hipparcos data set. *ApJ*, 532, L51–L53 {19}
Catala C, Donati J, Shkolnik E, et al., 2007, The magnetic field of the planet-hosting star τ Boo. *MNRAS*, 374, L42–L46 {2}
Cataldi G, Brandeker A, Olofsson G, et al., 2015, Constraints on the gas content of the Fomalhaut debris belt: can gas-dust interactions explain the belt's morphology? *A&A*, 574, L1 {51}
Cataldi G, Brandeker A, Wu Y, et al., 2018, ALMA resolves C I emission from the β Pic debris disk. *ApJ*, 861, 72 {52}
Cauley PW, Redfield S, Jensen AG, 2017a, A decade of Hα transits for HD 189733 b: stellar activity versus absorption in the extended atmosphere. *AJ*, 153, 217 {19}
—, 2017b, A search for Hα absorption around KELT–3 b and GJ 436 b. *AJ*, 153, 81 {17, 26}
—, 2017c, Evidence for abnormal Hα variability during near-transit observations of HD 189733 b. *AJ*, 153, 185 {19}
Cauley PW, Redfield S, Jensen AG, et al., 2015, Optical hydrogen absorption consistent with a thin bow shock leading the hot Jupiter HD 189733 b. *ApJ*, 810, 13 {19}
—, 2016, Variation in the pre-transit Balmer line signal around the hot Jupiter HD 189733 b. *AJ*, 152, 20 {19}
Cauley PW, Shkolnik EL, Llama J, et al., 2018, Evidence of magnetic star–planet interactions in the HD 189733 system from orbitally phased Ca II K variations. *AJ*, 156, 262 {19}

Published by Cambridge University Press, ISBN 9781108419772

Cebron D, Le Bars M, Moutou C, et al., 2012, Elliptical instability in terrestrial planets and moons. *A&A*, 539, A78 {16, 22, 23}

Cegla HM, Lovis C, Bourrier V, et al., 2016, The Rossiter–McLaughlin effect reloaded: probing the 3d spin–orbit geometry, differential stellar rotation, and the spatially-resolved stellar spectrum of star–planet systems. *A&A*, 588, A127 {19}

—, 2017, A cautionary tale: limitations of a brightness-based spectroscopic approach to chromatic exoplanet radii. *A&A*, 598, L3 {19}

Cenadelli D, Bernagozzi A, 2015, Youth plus experience: the discovery of 51 Peg b. *European Physical Journal H*, 40 {4}

Chadney JM, Galand M, Unruh YC, et al., 2015, Extreme ultraviolet-driven mass loss from extrasolar giant planets orbiting active stars. *Icarus*, 250, 357–367 {3}

Chadney JM, Koskinen TT, Galand M, et al., 2017, Effect of stellar flares on the upper atmospheres of HD 189733 b and HD 209458 b. *A&A*, 608, A75 {19, 21}

Chakrabarti S, Mendillo CB, Cook TA, et al., 2016, Planet imaging coronagraphic technology using a reconfigurable experimental base (PICTURE-B): the second in the series of suborbital exoplanet experiments. *Journal of Astronomical Instrumentation*, 5, 1640004-595 {3}

Chakraborty A, Roy A, Sharma R, et al., 2018, Evidence of a sub-Saturn around EPIC 211945201. *AJ*, 156, 3 {38}

Chan T, Ingemyr M, Winn JN, et al., 2011, The Transit Light Curve Project. XIV. Confirmation of anomalous radii for the exoplanets TrES–4 b, HAT–P–3 b, and WASP–12 b. *AJ*, 141, 179 {24, 41, 42}

—, 2012, The Transit Light Curve Project. XIV. Confirmation of anomalous radii for the exoplanets TrES–4 b, HAT–P–3 b, and WASP–12 b (Erratum to: 2011AJ....141..179C). *AJ*, 144, 90 {24, 41, 42}

Chaplin WJ, Sanchis-Ojeda R, Campante TL, et al., 2013, Asteroseismic determination of obliquities of the exoplanet systems Kepler–50 and Kepler–65. *ApJ*, 766, 101 {30, 31}

Charbonneau D, Allen LE, Megeath ST, et al., 2005, Detection of thermal emission from an extrasolar planet. *ApJ*, 626, 523–529 {40}

Charbonneau D, Berta ZK, Irwin J, et al., 2009, A super-Earth transiting a nearby low-mass star. *Nature*, 462, 891–894 {23}

Charbonneau D, Brown TM, Latham DW, et al., 2000, Detection of planetary transits across a Sun-like star. *ApJ*, 529, L45–L48 {19}

Charbonneau D, Brown TM, Noyes RW, et al., 2002, Detection of an extrasolar planet atmosphere. *ApJ*, 568, 377–384 {19}

Charbonneau D, Knutson HA, Barman T, et al., 2008, The broad-band infrared emission spectrum of the exoplanet HD 189733 b. *ApJ*, 686, 1341–1348 {18}

Charbonneau D, Noyes RW, Korzennik SG, et al., 1999, An upper limit on the reflected light from the planet orbiting the star τ Boo. *ApJ*, 522, L145–L148 {2}

Charbonneau D, Winn JN, Everett ME, et al., 2007, Precise radius estimates for the exoplanets WASP–1 b and WASP–2 b. *ApJ*, 658, 1322–1327 {41}

Charbonneau D, Winn JN, Latham DW, et al., 2006, Transit photometry of the core-dominated planet HD 149026 b. *ApJ*, 636, 445–452 {17}

Charnay B, Meadows V, Leconte J, 2015a, 3d modeling of GJ 1214 b atmosphere: vertical mixing driven by an anti-Hadley circulation. *ApJ*, 813, 15 {23}

Charnay B, Meadows V, Misra A, et al., 2015b, 3d modeling of GJ 1214 b atmosphere: formation of inhomogeneous high clouds and observational implications. *ApJ*, 813, L1 {23}

Charpinet S, Fontaine G, Brassard P, et al., 2011, A compact system of small planets around a former red giant star. *Nature*, 480, 496–499 {31}

Chauvin G, Beust H, Lagrange AM, et al., 2011, Planetary systems in close binary stars: the case of HD 196885. Combined astrometric and radial velocity study. *A&A*, 528, A8 {12}

Chauvin G, Desidera S, Lagrange AM, et al., 2017, Discovery of a warm, dusty giant planet around HIP 65426. *A&A*, 605, L9 {53}

Chauvin G, Gratton R, Bonnefoy M, et al., 2018, Investigating the young solar system analog HD 95086: a combined HARPS and SPHERE exploration. *A&A*, 617, A76 {52}

Chauvin G, Lagrange AM, Beust H, et al., 2012, Orbital characterisation of the β Pic b giant planet. *A&A*, 542, A41 {52}

Chauvin G, Lagrange AM, Dumas C, et al., 2004, A giant planet candidate near a young brown dwarf: direct VLT–NACO observations using infrared wavefront sensing. *A&A*, 425, L29–L32 {54}

—, 2005a, Giant planet companion to 2M J1207. *A&A*, 438, L25–L28 {54}

Chauvin G, Lagrange AM, Udry S, et al., 2007, Characterisation of the long-period companions of the exoplanet host stars: HD 196885, HD 1237 and HD 27442. VLT–NACO and SINFONI near-infrared, follow-up imaging and spectroscopy. *A&A*, 475, 723–727 {7, 12}

Chauvin G, Lagrange AM, Zuckerman B, et al., 2005b, A companion to AB Pic at the planet/brown dwarf boundary. *A&A*, 438, L29–L32 {52}

Chavero C, de La Reza R, Domingos RC, et al., 2010, Distribution of refractory and volatile elements in CoRoT exoplanet host stars. *A&A*, 517, A40 {21, 22}

Chavez CE, Georgakarakos N, Prodan S, et al., 2015, A dynamical stability study of Kepler circumbinary planetary systems with one planet. *MNRAS*, 446, 1283–1292 {28, 29, 30, 34}

Cheetham A, Ségransan D, Peretti S, et al., 2018, Direct imaging of an ultracool substellar companion to the exoplanet host star HD 4113A. *A&A*, 614, A16 {6}

Chen G, Guenther EW, Pallé E, et al., 2017a, The GTC exoplanet transit spectroscopy survey. V. A spectrally-resolved Rayleigh scattering slope in GJ 3470 b. *A&A*, 600, A138 {17}

Chen G, Knutson HA, Dressing CD, et al., 2018a, An improved transit measurement for a 2.4$R_\oplus$ planet orbiting a bright mid-M dwarf K2–28. *AJ*, 155, 223 {37}

Chen G, Pallé E, Nortmann L, et al., 2017b, The GTC exoplanet transit spectroscopy survey. VI. Detection of sodium in WASP–52 b's cloudy atmosphere. *A&A*, 600, L11 {46}

Chen G, Pallé E, Welbanks L, et al., 2018b, The GTC exoplanet transit spectroscopy survey. IX. Detection of haze, Na, K, and Li in the super-Neptune WASP–127 b. *A&A*, 616, A145 {47}

Chen G, van Boekel R, Madhusudhan N, et al., 2014a, Ground-based detection of the near-infrared emission from the day-side of WASP–5 b. *A&A*, 564, A6 {42}

Chen G, van Boekel R, Wang H, et al., 2014b, Broad-band transmission spectrum and K-band thermal emission of WASP–43 b as observed from the ground. *A&A*, 563, A40 {45}

—, 2014c, Observed spectral energy distribution of the thermal emission from the day-side of WASP–46 b. *A&A*, 567, A8 {45}

Chen YY, 2015, The dynamics of tide and resonances in exoplanetary systems. *Acta Astronomica Sinica*, 56, 314–316 {8}

Cherenkov A, Bisikalo D, Fossati L, et al., 2017, The influence of coronal mass ejections on the mass-loss rates of hot-Jupiters. *ApJ*, 846, 31 {21}

Cherenkov AA, Bisikalo DV, Kaigorodov PV, 2014, Mass-loss rates of hot-Jupiter exoplanets with various types of gaseous envelopes. *Astronomy Reports*, 58, 679–687 {20}

Cherenkov AA, Bisikalo DV, Kosovichev AG, 2018, Influence of stellar radiation pressure on flow structure in the envelope of hot-Jupiter HD 209458 b. *MNRAS*, 475, 605–613 {21}

Chernov SV, Ivanov PB, Papaloizou JCB, 2017, Dynamical tides in exoplanetary systems containing hot Jupiters: confronting theory and observations. *MNRAS*, 470, 2054–2068 {31, 39, 43, 44, 45}

Chiang EI, Kite E, Kalas P, et al., 2009, Fomalhaut's debris disk and planet: constraining the mass of Fomalhaut b from disk morphology. *ApJ*, 693, 734–749 {51}

Chiang EI, Murray N, 2002, Eccentricity excitation and apsidal resonance capture in the planetary system υ And. *ApJ*, 576, 473–477 {1}

Chiang EI, Tabachnik S, Tremaine S, 2001, Apsidal alignment in υ And. *AJ*, 122, 1607–1615 {1}

Chilcote J, Pueyo L, De Rosa RJ, et al., 2017, 1–2.4 μm near-infrared spectrum of the giant planet β Pic b obtained with Gemini–GPI. *AJ*, 153, 182 {52}

Chilcote JK, Barman T, Fitzgerald MP, et al., 2015, The first H-band spectrum of the giant planet β Pic b. *ApJ*, 798, L3 {52}

Cho JYK, Menou K, Hansen BMS, et al., 2003, The changing face of the extrasolar giant planet HD 209458 b. *ApJ*, 587, L117–L120 {19}

Christensen-Dalsgaard J, Kjeldsen H, Brown TM, et al., 2010, Asteroseismic investigation of known planet hosts in the Kepler field. *ApJ*, 713, L164–L168 {24}

Christian DJ, Gibson NP, Simpson EK, et al., 2009, WASP–10 b: a 3$M_{\rm J}$, gas-giant planet transiting a late-type K star. *MNRAS*, 392, 1585–1590 {42}

Christiansen JL, Ballard S, Charbonneau D, et al., 2010, Studying the atmosphere of the exoplanet HAT–P–7 b via secondary eclipse measurements with EPOXI, Spitzer, and Kepler. *ApJ*, 710, 97–104 {24}

—, 2011, System parameters, transit times, and secondary eclipse constraints of the exoplanet systems HAT–P–4, TrES–2, TrES–3, and WASP–3 from the NASA EPOXI mission of opportunity. *ApJ*, 726, 94 {24, 40, 41}

Christiansen JL, Crossfield IJM, Barentsen G, et al., 2018, The K2–138 system: a near-resonant chain of five sub-Neptune planets discovered by citizen scientists. *AJ*, 155, 57 {38}

Christiansen JL, Vanderburg A, Burt J, et al., 2017, Three's company: an additional non-transiting super-Earth in the bright HD 3167 system, and masses for all three planets. *AJ*, 154, 122 {38}

Chung SJ, 2009, Characterisation of the resonant caustic perturbation. *ApJ*, 705, 386–390 {49}

Ciardi DR, Crossfield IJM, Feinstein AD, et al., 2018, K2–136: a binary system in the Hyades cluster hosting a Neptune-sized planet. *AJ*, 155, 10 {38}

Ciardi DR, van Eyken JC, Barnes JW, et al., 2015, Follow-up observations of PTFO 8–8695: a 3 Myr old T Tauri star hosting a Jupiter-mass planetary candidate. *ApJ*, 809, 42 {39}

Ciceri S, Lillo-Box J, Southworth J, et al., 2015a, Kepler–432 b: a massive planet in a highly eccentric orbit transiting a red giant. *A&A*, 573, L5 {34}

Ciceri S, Mancini L, Henning T, et al., 2016a, HATS–15 b and HATS–16 b: two massive planets transiting old G dwarf stars. *PASP*, 128(7), 074401 {26}

Ciceri S, Mancini L, Southworth J, et al., 2013, Simultaneous follow-up of planetary transits: revised physical properties for the systems HAT–P–16 and WASP–21. *A&A*, 557, A30 {25, 44}

—, 2015b, Physical properties of the HAT–P–23 and WASP–48 planetary systems from multi-colour photometry. *A&A*, 577, A54 {25, 45}

—, 2016b, Physical properties of the planetary systems WASP–45 and WASP–46 from simultaneous multiband photometry. *MNRAS*, 456, 990–1002 {45}

Cimerman NP, Kley W, Kuiper R, 2018, Formation of a planetary Laplace resonance through migration in an eccentric disk: the case of GJ 876. *A&A*, 618, A169 {6}

Claret A, 2009, Does the HD 209458 planetary system pose a challenge to the stellar atmosphere models? *A&A*, 506, 1335–1340 {20}

Clark BJM, Anderson DR, Hellier C, et al., 2018a, An analysis of transiting hot Jupiters observed with K2: WASP–55 b and WASP–75 b. *PASP*, 130(3), 034401 {46}

Clark BJM, Anderson DR, Madhusudhan N, et al., 2018b, Thermal emission of WASP–48 b in the K_S-band. *A&A*, 615, A86 {45}

Clemens DP, Maheshwari K, Jagani R, et al., 2018, Proper motion of the faint star near KIC–8462852 (Boyajian's Star): not a binary system. *ApJ*, 856, L8 {36}

Close LM, Males JR, 2010, A search for wide companions to the extrasolar planetary system HR 8799. *ApJ*, 709, 342–348 {53}

Close LM, Zuckerman B, Song I, et al., 2007, The wide brown dwarf binary Oph 1622–2405 and discovery of a wide, low-mass binary in Ophiuchus (Oph 1623–2402): a new class of young evaporating wide binaries? *ApJ*, 660, 1492–1506 {54}

Cloutier R, Astudillo-Defru N, Doyon R, et al., 2017a, Characterisation of the K2–18 multi-planetary system with HARPS: a habitable zone super-Earth and discovery of a second, warm super-Earth on a non-coplanar orbit. *A&A*, 608, A35 {37}

Cloutier R, Doyon R, Menou K, et al., 2017b, On the radial velocity detection of additional planets in transiting, slowly rotating M dwarf systems: the case of GJ 1132. *AJ*, 153, 9 {23}

Cloutier R, Triaud AHMJ, 2016, Prospects for detecting the Rossiter–McLaughlin effect of Earth-like planets: the test case of TRAPPIST–1 b and c. *MNRAS*, 462, 4018–4027 {40}

Cochran WD, Endl M, McArthur B, et al., 2004, The first Hobby–Eberly telescope

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planet: a companion to HD 37605. *ApJ*, 611, L133–L136 {7}
Cochran WD, Endl M, Wittenmyer RA, et al., 2007, A planetary system around HD 155358: the lowest metallicity planet host star. *ApJ*, 665, 1407–1412 {11}
Cochran WD, Fabrycky DC, Torres G, et al., 2011, Kepler–18 b, c, and d: a system of three planets confirmed by transit timing variations, light curve validation, warm Spitzer photometry, and radial velocity measurements. *ApJS*, 197, 7 {28}
Cochran WD, Hatzes AP, Butler RP, et al., 1997, The discovery of a planetary companion to 16 Cyg B. *ApJ*, 483, 457–463 {3}
Cochran WD, Hatzes AP, Hancock TJ, 1991, Constraints on the companion object to HD 114762. *ApJ*, 380, L35–L38 {10}
Cochran WD, Redfield S, Endl M, et al., 2008, The spin–orbit alignment of the HD 17156 transiting eccentric planetary system. *ApJ*, 683, L59–L62 {17}
Cody AM, Sasselov DD, 2002, HD 209458: physical parameters of the parent star and the transiting planet. *ApJ*, 569, 451–458 {19}
Cohen O, Glocer A, Garraffo C, et al., 2018, Energy dissipation in the upper atmospheres of TRAPPIST–1 planets. *ApJ*, 856, L11 {40}
Cohen O, Kashyap VL, Drake JJ, et al., 2011, Dynamics of stellar coronae harbouring hot Jupiters. I. A time-dependent magnetohydrodynamic simulation of the interplanetary environment in the HD 189733 planetary system. *ApJ*, 733, 67 {18}
Coleman GAL, Nelson RP, Paardekooper SJ, et al., 2017, Exploring plausible formation scenarios for the planet candidate orbiting Proxima Cen. *MNRAS*, 467, 996–1007 {2}
Collier Cameron A, Bouchy F, Hébrard G, et al., 2007, WASP–1 b and WASP–2 b: two new transiting exoplanets detected with SuperWASP and SOPHIE. *MNRAS*, 375, 951–957 {41}
Collier Cameron A, Bruce VA, Miller GRM, et al., 2010a, Line-profile tomography of exoplanet transits. I. The Doppler shadow of HD 189733 b. *MNRAS*, 403, 151–158 {18}
Collier Cameron A, Guenther E, Smalley B, et al., 2010b, Line-profile tomography of exoplanet transits. II. A gas-giant planet transiting a rapidly rotating A5 star. *MNRAS*, 407, 507–514 {44}
Collier Cameron A, Horne K, Penny A, et al., 1999, Probable detection of starlight reflected from the giant planet orbiting τ Boo. *Nature*, 402, 751–755 {2}
—, 2002, A search for starlight reflected from the υ And innermost planet. *MNRAS*, 330, 187–204 {1}
Collins KA, Eastman JD, Beatty TG, et al., 2014, KELT–6 b: a 7.9-d hot Saturn transiting a metal-poor star with a long-period companion. *AJ*, 147, 39 {27}
Collins KA, Kielkopf JF, Stassun KG, 2017, Transit timing variation measurements of WASP–12 b and Qatar–1 b: no evidence of additional planets. *AJ*, 153, 78 {39, 43}
Colón KD, Ford EB, Lee B, et al., 2010, Characterising transiting extrasolar planets with narrow-band photometry and GTC–OSIRIS. *MNRAS*, 408, 1494–1501 {40, 41}
Colón KD, Ford EB, Redfield S, et al., 2012, Probing potassium in the atmosphere of HD 80606 b with tunable filter transit spectrophotometry from the Gran Telescopio Canarias. *MNRAS*, 419, 2233–2250 {17}
Colón KD, Gaidos E, 2013, Narrow K-band observations of the GJ 1214 system. *ApJ*, 776, 49 {23}
Colón KD, Morehead RC, Ford EB, 2015, Vetting Kepler planet candidates in the sub-Jovian desert with multiband photometry. *MNRAS*, 452, 3001–3009 {35}
Colón KD, Zhou G, Shporer A, et al., 2018, A large ground-based observing campaign of the disintegrating planet K2–22 b. *AJ*, 156, 227 {37}
Contro B, Horner J, Wittenmyer RA, et al., 2016, Modelling the inner debris disk of HR 8799. *MNRAS*, 463, 191–204 {53}
Cooper CS, Showman AP, 2005, Dynamic meteorology at the photosphere of HD 209458 b. *ApJ*, 629, L45–L48 {20}
—, 2006, Dynamics and disequilibrium carbon chemistry in hot Jupiter atmospheres, with application to HD 209458 b. *ApJ*, 649, 1048–1063 {20}
Copperwheat CM, Wheatley PJ, Southworth J, et al., 2013, Transmission photometry of WASP–12 b: simultaneous measurement of the planetary radius in three bands. *MNRAS*, 434, 661–670 {43}
Correa-Otto JA, Michtchenko TA, Beaugé C, 2013, A new scenario for the origin of the 3:2 resonant system HD 45364. *A&A*, 560, A65 {8}
Correia ACM, Couetdic J, Laskar J, et al., 2010, The HARPS search for southern extrasolar planets. XIX. Characterisation and dynamics of the GJ 876 planetary system. *A&A*, 511, A21 {5}
Correia ACM, Laskar J, Farago F, et al., 2011, Tidal evolution of hierarchical and inclined systems. *Cel. Mech. Dyn. Astron.*, 111, 105–130 {7, 17}
Correia ACM, Udry S, Mayor M, et al., 2005, The CORALIE survey for southern extrasolar planets. XIII. A pair of planets around HD 202206 or a circumbinary planet? *A&A*, 440, 751–758 {12}
—, 2008, The ELODIE survey for northern extrasolar planets. IV. HD 196885, a close binary star with a 3.7-year planet. *A&A*, 479, 271–275 {12}
—, 2009, The HARPS search for southern extrasolar planets. XVI. HD 45364, a pair of planets in a 3:2 mean motion resonance. *A&A*, 496, 521–526 {8}
Cosmovici CB, Pogrebenko S, 2018, Water maser emission from exoplanetary systems. *Int. J. Astrobiol.*, 17, 70–76 {3, 4, 5}
Couetdic J, Laskar J, Correia ACM, et al., 2010, Dynamical stability analysis of the HD 202206 system and constraints to the planetary orbits. *A&A*, 519, A10 {12}
Coughlin JL, López-Morales M, 2012, Modeling multi-wavelength stellar astrometry. III. Determination of the absolute masses of exoplanets and their host stars. *ApJ*, 750, 100 {16, 17, 18, 20, 23, 42}
Coughlin JL, Stringfellow GS, Becker AC, et al., 2008, New observations and a possible detection of parameter variations in the transits of GJ 436 b. *ApJ*, 689, L149–L152 {16}
Courcol B, Bouchy F, Pepe F, et al., 2015, The SOPHIE search for northern extrasolar planets. VII. A warm Neptune orbiting HD 164595. *A&A*, 581, A38 {11}
Covino E, Esposito M, Barbieri M, et al., 2013, The GAPS programme with HARPS–N at TNG. I. Observations of the Rossiter–McLaughlin effect and characterisation of the transiting system Qatar–1. *A&A*, 554, A28 {39}
Cowan NB, Agol E, 2011a, A model for thermal phase variations of circular and eccentric exoplanets. *ApJ*, 726, 82 {16, 17, 18, 23, 24, 43, 48}
—, 2011b, The statistics of albedo and heat recirculation on hot exoplanets. *ApJ*, 729, 54 {16, 17}
Cowan NB, Agol E, Charbonneau D, 2007, Hot nights on extrasolar planets: mid-infrared phase variations of hot Jupiters. *MNRAS*, 379, 641–646 {20}
Cowan NB, Machalek P, Croll B, et al., 2012, Thermal phase variations of WASP–12 b: defying predictions. *ApJ*, 747, 82 {42}
Crida A, Ligi R, Dorn C, et al., 2018, Mass, radius, and composition of the transiting planet 55 Cnc e: using interferometry and correlations. *ApJ*, 860, 122 {16}
Crida A, Masset F, Morbidelli A, 2009, Long range outward migration of giant planets, with application to Fomalhaut b. *ApJ*, 705, L148–L152 {51}
Crockett CJ, Mahmud NI, Prato L, et al., 2012, A search for giant planet companions to T Tauri stars. *ApJ*, 761, 164 {4}
Croll B, Albert L, Jayawardhana R, et al., 2011a, Broad-band transmission spectroscopy of the super-Earth GJ 1214 b suggests a low mean molecular weight atmosphere. *ApJ*, 736, 78 {23}
—, 2015a, Near-infrared thermal emission detections of a number of hot Jupiters and the systematics of ground-based near-infrared photometry. *ApJ*, 802, 28 {26, 39, 42, 43}
Croll B, Albert L, Lafreniere D, et al., 2010a, Near-infrared thermal emission from the hot Jupiter TrES–2 b: ground-based detection of the secondary eclipse. *ApJ*, 717, 1084–1091 {40}
Croll B, Jayawardhana R, Fortney JJ, et al., 2010b, Near-infrared thermal emission from TrES–3 b: a Ks-band detection and an upper limit on the secondary eclipse. *ApJ*, 718, 920–927 {41}
Croll B, Lafreniere D, Albert L, et al., 2011b, Near-infrared thermal emission from WASP–12 b: detections of the secondary eclipse in Ks, H, and J. *AJ*, 141, 30 {42}
Croll B, Matthews JM, Rowe JF, et al., 2007a, Looking for giant Earths in the HD 209458 system: a search for transits in MOST space-based photometry. *ApJ*, 658, 1328–1339 {20}
—, 2007b, Looking for super-Earths in the HD 189733 system: a search for transits in MOST space-based photometry. *ApJ*, 671, 2129–2138 {18}
Croll B, Rappaport S, DeVore J, et al., 2014, Multiwavelength observations of the candidate disintegrating sub-Mercury KIC–12557548 b. *ApJ*, 786, 100 {36}
Croll B, Rappaport S, Levine AM, 2015b, The relation between the transit depths of KIC–12557548 b and the stellar rotation period. *MNRAS*, 449, 1408–1421 {36}
Croll B, Walker GAH, Kuschnig R, et al., 2006, Differential rotation of ϵ Eri detected by MOST. *ApJ*, 648, 607–613 {3}
Crossfield IJM, 2012, ACME stellar spectra. I. Absolutely calibrated, mostly empirical flux densities of 55 Cnc and its transiting planet 55 Cnc e. *A&A*, 545, A97 {16}
—, 2013, On high-contrast characterisation of nearby, short-period exoplanets with giant segmented-mirror telescopes. *A&A*, 551, A99 {2, 3, 5}
Crossfield IJM, Barman T, Hansen BMS, 2011, High-resolution, differential, near-infrared transmission spectroscopy of GJ 1214 b. *ApJ*, 736, 132 {23}
Crossfield IJM, Barman T, Hansen BMS, et al., 2012a, Re-evaluating WASP–12 b: strong emission at 2.315 μm, deeper occultations, and an isothermal atmosphere. *ApJ*, 760, 140 {42}
—, 2013, Warm ice giant GJ 3470 b. I. A flat transmission spectrum indicates a hazy, low-methane, and/or metal-rich atmosphere. *A&A*, 559, A33 {17}
Crossfield IJM, Ciardi DR, Isaacson H, et al., 2017, Two small transiting planets and a possible third body orbiting HD 106315. *AJ*, 153, 255 {38}
Crossfield IJM, Ciardi DR, Petigura EA, et al., 2016, 197 candidates and 104 validated planets in K2's first five fields. *ApJS*, 226, 7 {37, 38, 46}
Crossfield IJM, Hansen BMS, Barman T, 2012b, Ground-based, near-infrared exospectroscopy. II. Tentative detection of emission from the extremely hot Jupiter WASP–12 b. *ApJ*, 746, 46 {42}
Crossfield IJM, Hansen BMS, Harrington J, et al., 2010, A new 24 micron phase curve for υ And b. *ApJ*, 723, 1436–1446 {1}
Crossfield IJM, Knutson H, Fortney J, et al., 2012c, Spitzer–MIPS 24 μm observations of HD 209458 b: three eclipses, two and a half transits, and a phase curve corrupted by instrumental sensitivity variations. *ApJ*, 752, 81 {20}
Crossfield IJM, Petigura E, Schlieder JE, et al., 2015, A nearby M star with three transiting super-Earths discovered by K2. *ApJ*, 804, 10 {37}
Crouzet N, McCullough PR, Burke C, et al., 2012, Transmission spectroscopy of exoplanet XO–2 b observed with HST–NICMOS. *ApJ*, 761, 7 {48}
Crouzet N, McCullough PR, Deming D, et al., 2014, Water vapour in the spectrum of the exoplanet HD 189733 b. II. The eclipse. *ApJ*, 795, 166 {19}
Crouzet N, McCullough PR, Long D, et al., 2017, Discovery of XO–6 b: a hot Jupiter transiting a fast rotating F5 star on an oblique orbit. *AJ*, 153, 94 {48}
Cruz P, Barrado D, Lillo-Box J, et al., 2015, Detection of the secondary eclipse of WASP–10 b in the Ks-band. *A&A*, 574, A103 {42}
—, 2016, Detection of the secondary eclipse of Qatar–1 b in the Ks band. *A&A*, 595, A61 {39}
Csizmadia S, Hatzes A, Gandolfi D, et al., 2015, Transiting exoplanets from the CoRoT space mission. XXVIII. CoRoT–33 b, an object in the brown dwarf desert with 2:3 commensurability with its host star. *A&A*, 584, A13 {23}
Csizmadia S, Moutou C, Deleuil M, et al., 2011, Transiting exoplanets from the CoRoT space mission. XVII. The hot Jupiter CoRoT–17 b: a very old planet. *A&A*, 531, A41 {22}
Csizmadia S, Renner S, Barge P, et al., 2010, Transit timing analysis of CoRoT–1 b. *A&A*, 510, A94 {21}
Cuartas-Restrepo PA, Melita M, Zuluaga JI, et al., 2016, Spin–orbit evolution of the GJ 667C system: the effect of composition and other planets' perturbations. *MNRAS*, 463, 1592–1604 {5}
Cubillos P, Harrington J, Madhusudhan N, et al., 2013, WASP–8 b: characterisation of a cool and eccentric exoplanet with Spitzer. *ApJ*, 768, 42 {42}
—, 2014, A Spitzer five-band analysis of the Jupiter-sized planet TrES–1. *ApJ*, 797, 42 {40}
Cubillos P, Rojo P, Fortney JJ, 2011, High-resolution spectroscopic search for the thermal emission of the extrasolar planet HD 217107 b. *A&A*, 529, A88 {13}

Published by Cambridge University Press, ISBN 9781108419772

Cubillos PE, Fossati L, Erkaev NV, et al., 2017, Aerosol constraints on the atmosphere of the hot Saturn-mass planet WASP–49 b. *ApJ*, 849, 145 {45}

Ćuk M, 2018, Oumuamua as a tidal disruption fragment from a binary star system. *ApJ*, 852, L15 {54}

Cuntz M, 2012, Application of the Titius–Bode rule to the 55 Cnc system: tentative prediction of a possibly habitable planet. *PASJ*, 64, 73 {16}

Cuntz M, Loibnegger B, Dvorak R, 2018, Exocomets in the 47 UMa system: theoretical simulations including water transport. *AJ*, 156, 290 {4}

Cuntz M, Quarles B, Eberle J, et al., 2013, On the possibility of habitable moons in the system of HD 23079: results from orbital stability studies. *Publ. Astron. Soc. Australia*, 30, e033 {7}

Cuntz M, von Bloh W, Bounama C, et al., 2003, On the possibility of Earth-type habitable planets around 47 UMa. *Icarus*, 162, 214–221 {4}

Curiel S, Cantó J, Georgiev L, et al., 2011, A fourth planet orbiting υ And. *A&A*, 525, A78 {1}

Currie T, Brandt TD, Uyama T, et al., 2018, SCExAO/CHARIS near-infrared direct imaging, spectroscopy, and forward-modeling of κ And b: a likely young, low-gravity super-Jovian companion. *AJ*, 156, 291 {51}

Currie T, Brittain S, Grady CA, et al., 2017, Clarifying the status of HD 100546 as observed by the Gemini Planet Imager. *RNAAS*, 1, 40 {53}

Currie T, Burrows A, Daemgen S, 2014a, A first-look atmospheric modeling study of the young directly imaged planet-mass companion, ROXs 42B b. *ApJ*, 787, 104 {54}

Currie T, Burrows A, Girard JH, et al., 2014b, Deep thermal infrared imaging of HR 8799 bcde: new atmospheric constraints and limits on a fifth planet. *ApJ*, 795, 133 {53}

Currie T, Burrows A, Itoh Y, et al., 2011a, A combined Subaru–VLT–MMT $1-5\,\mu$m study of planets orbiting HR 8799: implications for atmospheric properties, masses, and formation. *ApJ*, 729, 128 {53}

Currie T, Burrows A, Madhusudhan N, et al., 2013a, A combined VLT–Gemini study of the atmosphere of the directly imaged planet, β Pic b. *ApJ*, 776, 15 {52}

Currie T, Cloutier R, Brittain S, et al., 2015, Resolving the HD 100546 protoplanetary system with the Gemini Planet Imager (GPI): evidence for multiple forming, accreting planets. *ApJ*, 814, L27 {53}

Currie T, Cloutier R, Debes JH, et al., 2013b, A deep Keck–NIRC2 search for thermal emission from planetary companions orbiting Fomalhaut. *ApJ*, 777, L6 {51}

Currie T, Daemgen S, Debes J, et al., 2014c, Direct imaging and spectroscopy of a candidate companion below/near the deuterium-burning limit in the young binary star system, ROXs 42B. *ApJ*, 780, L30 {54}

Currie T, Debes J, Rodigas TJ, et al., 2012a, Direct imaging confirmation and characterisation of a dust-enshrouded candidate exoplanet orbiting Fomalhaut. *ApJ*, 760, L32 {51}

Currie T, Fukagawa M, Thalmann C, et al., 2012b, Direct detection and orbital analysis of the exoplanets HR 8799 bcd from archival 2005 Keck–NIRC2 data. *ApJ*, 755, L34 {53}

Currie T, Muto T, Kudo T, et al., 2014d, Recovery of the candidate protoplanet HD 100546 b with Gemini–NICI and detection of additional (planet-induced?) disk structure at small separations. *ApJ*, 796, L30 {53}

Currie T, Thalmann C, Matsumura S, et al., 2011b, A $5\,\mu$m image of β Pic b at a sub-Jupiter projected separation: evidence for a misalignment between the planet and the inner, warped disk. *ApJ*, 736, L33 {52}

Curtis JL, Vanderburg A, Torres G, et al., 2018, K2–231 b: a sub-Neptune exoplanet transiting a solar twin in Ruprecht 147. *AJ*, 155, 173 {38}

Cyncynates D, Dimastrogiovanni E, Kumar S, et al., 2017, Could Oumuamua be macroscopic dark matter? *ArXiv e-prints* {54}

Czekala I, Andrews SM, Mandel KS, et al., 2015, Constructing a flexible likelihood function for spectroscopic inference. *ApJ*, 812, 128 {43}

Czesla S, Klocová T, Khalafinejad S, et al., 2015, The centre-to-limb variation across the Fraunhofer lines of HD 189733: sampling the stellar spectrum using a transiting planet. *A&A*, 582, A51 {19}

Czesla S, Salz M, Schneider PC, et al., 2013, X-ray irradiation and mass-loss of the hot Jupiter WASP–43 b. *A&A*, 560, A17 {45}

—, 2017, Coronal X-ray emission and planetary irradiation in HD 209458. *A&A*, 607, A101 {21}

Czesla S, Schröter S, Wolter U, et al., 2012, The extended chromosphere of CoRoT–2A: discovery and analysis of the chromospheric Rossiter–McLaughlin effect. *A&A*, 539, A150 {21}

da Silva R, Udry S, Bouchy F, et al., 2006, ELODIE metallicity-biased search for transiting hot Jupiters. I. Two hot Jupiters orbiting the slightly evolved stars HD 118203 and HD 149143. *A&A*, 446, 717–722 {10, 11}

—, 2007, ELODIE metallicity-biased search for transiting hot Jupiters. IV. Intermediate period planets orbiting the stars HD 43691 and HD 132406. *A&A*, 473, 323–328 {8, 10}

Daemgen S, Hormuth F, Brandner W, et al., 2009, Binarity of transit host stars: implications for planetary parameters. *A&A*, 498, 567–574 {40, 41}

Daemgen S, Todorov K, Quanz SP, et al., 2017a, High signal-to-noise spectral characterisation of the planetary-mass object HD 106906 b. *A&A*, 608, A71 {53}

Daemgen S, Todorov K, Silva J, et al., 2017b, Mid-infrared characterisation of the planetary-mass companion ROXs 42B b. *A&A*, 601, A65 {54}

Dai F, Winn JN, 2017, The oblique orbit of WASP–107 b from K2 photometry. *AJ*, 153, 205 {47}

Dai F, Winn JN, Albrecht S, et al., 2016, Doppler monitoring of five K2 transiting planetary systems. *ApJ*, 823, 115 {37}

Dai F, Winn JN, Arriagada P, et al., 2015, Doppler monitoring of the WASP–47 multiplanet system. *ApJ*, 813, L9 {45}

Dai F, Winn JN, Berta-Thompson Z, et al., 2018, Stellar obliquity and magnetic activity of planet-hosting stars and eclipsing binaries based on transit chord correlation. *AJ*, 155, 177 {30}

Dai F, Winn JN, Gandolfi D, et al., 2017a, The discovery and mass measurement of a new ultra-short-period planet: K2–131 b. *AJ*, 154, 226 {38}

Dai F, Winn JN, Yu L, et al., 2017b, The stellar obliquity, planet mass, and very low albedo of Qatar–2 from K2 photometry. *AJ*, 153, 40 {39}

Dai Y, Wilner DJ, Andrews SM, et al., 2010, Millimeter dust emission in the GQ Lup system. *AJ*, 139, 626–629 {52}

Dalba PA, Muirhead PS, 2016, No timing variations observed in third transit of snow-line exoplanet Kepler–421 b. *ApJ*, 826, L7 {34}

Dalba PA, Muirhead PS, Croll B, et al., 2017, Kepler transit depths contaminated by a phantom star. *AJ*, 153, 59 {35}

Damasso M, Biazzo K, Bonomo AS, et al., 2015a, The GAPS programme with HARPS–N at TNG. V. A comprehensive analysis of the XO–2 stellar and planetary systems. *A&A*, 575, A111 {48}

Damasso M, Bonomo AS, Astudillo-Defru N, et al., 2018, Eyes on K2–3: a system of three likely sub-Neptunes characterised with HARPS–N and HARPS. *A&A*, 615, A69 {37}

Damasso M, Del Sordo F, 2017, Proxima Cen reloaded: unravelling the stellar noise in radial velocities. *A&A*, 599, A126 {2}

Damasso M, Esposito M, Nascimbeni V, et al., 2015b, The GAPS programme with HARPS–N at TNG. IX. The multi-planet system KELT–6: detection of the planet KELT–6 c and measurement of the Rossiter–McLaughlin effect for KELT–6 b. *A&A*, 581, L6 {27}

Damiani C, Lanza AF, 2011, Prospecting transit duration variations in extrasolar planetary systems. *A&A*, 535, A116 {21, 22, 23, 24, 25, 27, 39, 41, 42, 43, 44, 45, 48}

Damiano M, Morello G, Tsiaras A, et al., 2017, Near-infrared transmission spectrum of HAT–P–32 b using HST–WFC3. *AJ*, 154, 39 {25}

Dang L, Cowan NB, Schwartz JC, et al., 2018, Detection of a westward hotspot offset in the atmosphere of hot gas giant CoRoT–2b. *Nature Astronomy*, 2, 220–227 {22}

D'Angelo G, Bodenheimer P, 2016, In situ and ex situ formation models of Kepler–11 planets. *ApJ*, 828, 33 {28}

Dangi BB, Kim YS, Krasnokutski SA, et al., 2015, Toward the formation of carbonaceous refractory matter in high temperature hydrocarbon-rich atmospheres of exoplanets upon micrometeoroid Iimpact. *ApJ*, 805, 76 {17}

Danielski C, Deroo P, Waldmann IP, et al., 2014, 0.94–2.42 μm ground-based transmission spectra of the hot Jupiter HD 189733 b. *ApJ*, 785, 35 {19}

Davenport JRA, Covey KR, Clarke RW, et al., 2018, The GALEX view of Boyajian's star (KIC–8462852). *ApJ*, 853, 130 {36}

David TJ, Crossfield IJM, Benneke B, et al., 2018a, Three small planets transiting the bright young field star K2–233. *AJ*, 155, 222 {38}

David TJ, Hillenbrand LA, Petigura EA, et al., 2016, A Neptune-sized transiting planet closely orbiting a 5–10 Myr-old star. *Nature*, 534, 658–661 {37}

David TJ, Mamajek EE, Vanderburg A, et al., 2018b, Discovery of a transiting adolescent sub-Neptune exoplanet with K2. *AJ*, 156, 302 {38}

Davies GR, Chaplin WJ, Farr WM, et al., 2015, Asteroseismic inference on rotation, gyrochronology and planetary system dynamics of 16 Cyg. *MNRAS*, 446, 2959–2966 {3}

Dawson RI, Fabrycky DC, 2010, Radial velocity planets de-aliased: a new, short period for super-Earth 55 Cnc e. *ApJ*, 722, 937–953 {16}

Dawson RI, Johnson JA, 2012, The photo-eccentric effect and proto-hot Jupiters. I. Measuring photometric eccentricities of individual transiting planets. *ApJ*, 756, 122 {17}

Dawson RI, Johnson JA, Fabrycky DC, et al., 2014, Large eccentricity, low mutual inclination: the three-dimensional architecture of a hierarchical system of giant planets. *ApJ*, 791, 89 {34}

Dawson RI, Johnson JA, Morton TD, et al., 2012, The photo-eccentric effect and proto-hot Jupiters. II. KOI–1474.01, a candidate eccentric planet perturbed by an unseen companion. *ApJ*, 761, 163 {34}

Dawson RI, Murray-Clay RA, Fabrycky DC, 2011, On the misalignment of the directly imaged planet β Pic b with the system's warped inner disk. *ApJ*, 743, L17 {52}

de Kok RJ, Brogi M, Snellen IAG, et al., 2013, Detection of CO in the high-resolution day-side spectrum of the exoplanet HD 189733 b. *A&A*, 554, A82 {18}

de la Fuente Marcos C, de la Fuente Marcos R, 2010, Drag-induced resonant capture in a multi-planet scenario: an application to 55 Cnc. *New Astron.*, 15, 260–273 {16}

—, 2017, Pole, pericentre, and nodes of the interstellar minor body Oumuamua. *RNAAS*, 1, 5 {54}

de Medeiros JR, Setiawan J, Hatzes AP, et al., 2009, A planet around the evolved intermediate-mass star HD 110014. *A&A*, 504, 617–623 {10}

de Mooij EJW, Brogi M, de Kok RJ, et al., 2012, Optical to near-infrared transit observations of super-Earth GJ 1214 b: water-world or mini-Neptune? *A&A*, 538, A46 {23}

—, 2013a, Search for Rayleigh scattering in the atmosphere of GJ 1214 b. *ApJ*, 771, 109 {23}

—, 2013b, The GROUSE project. III. Ks-band observations of the thermal emission from WASP–33 b. *A&A*, 550, A54 {44}

de Mooij EJW, de Kok RJ, Nefs SV, et al., 2011, The GROUSE project. II. Detection of the Ks-band secondary eclipse of exoplanet HAT–P–1 b. *A&A*, 528, A49 {23}

de Mooij EJW, López-Morales M, Karjalainen R, et al., 2014, Ground-based transit observations of the super-Earth 55 Cnc e. *ApJ*, 797, L21 {16}

de Mooij EJW, Snellen IAG, 2009, Ground-based K-band detection of thermal emission from the exoplanet TrES–3 b *A&A*, 493, L35–L38 {41}

De Rosa RJ, Nielsen EL, Blunt SC, et al., 2015, Astrometric confirmation and preliminary orbital parameters of the young exoplanet 51 Eri b with the Gemini Planet Imager (GPI). *ApJ*, 814, L3 {51}

De Rosa RJ, Rameau J, Patience J, et al., 2016, Spectroscopic characterisation of HD 95086 b with the Gemini Planet Imager (GPI)). *ApJ*, 824, 121 {52}

de Val-Borro M, Bakos GÁ, Brahm R, et al., 2016, HATS–31 b through HATS–35 b: five transiting hot Jupiters discovered by the HAT–South survey. *AJ*, 152, 161 {26}

de Wit J, Gillon M, Demory BO, et al., 2012, Towards consistent mapping of distant worlds: secondary-eclipse scanning of the exoplanet HD 189733 b. *A&A*, 548, A128 {18}

de Wit J, Lewis NK, Knutson HA, et al., 2017, Planet-induced stellar pulsations in the

HAT–P–2 eccentric system. *ApJ*, 836, L17 {23}
de Wit J, Lewis NK, Langton J, et al., 2016a, Direct measure of radiative and dynamical properties of an exoplanet atmosphere. *ApJ*, 820, L33 {17}
de Wit J, Seager S, 2013, Constraining exoplanet mass from transmission spectroscopy. *Science*, 342, 1473–1477 {18}
de Wit J, Wakeford HR, Gillon M, et al., 2016b, A combined transmission spectrum of the Earth-sized exoplanets TRAPPIST–1 b and c. *Nature*, 537, 69–72 {40}
de Wit J, Wakeford HR, Lewis NK, et al., 2018, Atmospheric reconnaissance of the habitable-zone Earth-sized planets orbiting TRAPPIST–1. *Nature Astronomy*, 2, 214–219 {40}
Deal M, Escobar ME, Vauclair S, et al., 2017, Asteroseismology of the exoplanet-host F-type star 94 Cet: Impact of atomic diffusion on the stellar parameters. *A&A*, 601, A127 {7}
Debes JH, Poteet CA, Jang-Condell H, et al., 2017, Chasing shadows: rotation of the azimuthal asymmetry in the TW Hya disk. *ApJ*, 835, 205 {54}
Debrecht A, Carroll-Nellenback J, Frank A, et al., 2018, Generation of a circumstellar gas disk by hot Jupiter WASP–12 b. *MNRAS*, 478, 2592–2598 {43}
Deck KM, Holman MJ, Agol E, et al., 2012, Rapid dynamical chaos in an exoplanetary system. *ApJ*, 755, L21 {29}
Deeg HJ, Alonso R, Nespral D, et al., 2018, Non-grey dimming events of KIC–8462852 from GTC spectrophotometry. *A&A*, 610, L12 {36}
Deeg HJ, Garrido R, Claret A, 2001, Probing the stellar surface of HD 209458 from multicolour transit observations. *New Astron.*, 6, 51–60 {19}
Deeg HJ, Moutou C, Erikson A, et al., 2010, A transiting giant planet with a temperature between 250 K and 430 K. *Nature*, 464, 384–387 {22}
Defrère D, Lebreton J, Le Bouquin JB, et al., 2012, Hot circumstellar material resolved around β Pic with VLTI–PIONIER. *A&A*, 546, L9 {52}
Dehghan Firoozabadi A, Diaz A, Rojo P, et al., 2017, Unsupervised method for correlated noise removal for multi-wavelength exoplanet transit observations. *PASP*, 129(7), 074502 {23, 44}
Deitrick R, Barnes R, McArthur B, et al., 2015, The three-dimensional architecture of the υ And planetary system. *ApJ*, 798, 46 {1}
Deitrick R, Barnes R, Quinn TR, et al., 2018, Exo-Milankovitch cycles. I. Orbits and rotation states. *AJ*, 155, 60 {30}
del Burgo C, Allende Prieto C, 2016, Accurate parameters for HD 209458 and its planet from HST spectrophotometry. *MNRAS*, 463, 1400–1408 {21}
Deleuil M, Almenara JM, Santerne A, et al., 2014, SOPHIE velocimetry of Kepler transit candidates XI. Kepler–412 system: probing the properties of a new inflated hot Jupiter. *A&A*, 564, A56 {34}
Deleuil M, Bonomo AS, Ferraz-Mello S, et al., 2012, Transiting exoplanets from the CoRoT space mission. XX. CoRoT–20 b: A very high density, high eccentricity transiting giant planet. *A&A*, 538, A145 {22}
Deleuil M, Deeg HJ, Alonso R, et al., 2008, Transiting exoplanets from the CoRoT space mission. VI. CoRoT–3 b: the first secure inhabitant of the brown-dwarf desert. *A&A*, 491, 889–897 {22}
Delfosse X, Bonfils X, Forveille T, et al., 2013, The HARPS search for southern extra-solar planets. XXXIII. Super-Earths around the M-dwarf neighbours GJ 433 and GJ 667C. *A&A*, 553, A8 {5}
Delfosse X, Forveille T, Mayor M, et al., 1998, The closest extrasolar planet: a giant planet around the M4 dwarf GJ 876. *A&A*, 338, L67–L70 {5}
Delgado Mena E, Israelian G, González Hernández JI, et al., 2011, Measuring Be depletion in cool stars with exoplanets. *ApJ*, 728, 148 {6, 8, 9, 10, 11, 12, 13}
Delgado Mena E, Lovis C, Santos NC, et al., 2018, Planets around evolved intermediate-mass stars. II. Are there really planets around IC 4651–9122, NGC 2423–3, and NGC 4349–127? *A&A*, 619, A2 {14}
Delisle JB, 2017, Analytical model of multi-planetary resonant chains and constraints on migration scenarios. *A&A*, 605, A96 {33}
Delisle JB, Correia ACM, Leleu A, et al., 2017, Spin dynamics of close-in planets exhibiting large transit timing variations. *A&A*, 605, A37 {31}
Delisle JB, Ségransan D, Dumusque X, et al., 2018, The HARPS search for southern extrasolar planets. XLIII. A compact system of four super-Earth planets orbiting HD 215152. *A&A*, 614, A133 {13}
Deliyannis CP, Cunha K, King JR, et al., 2000, Beryllium and iron abundances of the solar twins 16 Cyg A and B. *AJ*, 119, 2437–2444 {3}
Delorme P, Schmidt T, Bonnefoy M, et al., 2017, In-depth study of moderately young but extremely red, very dusty substellar companion HD 206893B. *A&A*, 608, A79 {53}
Delrez L, Gillon M, Triaud AHMJ, et al., 2018a, Early 2017 observations of TRAPPIST–1 with Spitzer. *MNRAS*, 475, 3577–3597 {40}
Delrez L, Madhusudhan N, Lendl M, et al., 2018b, High-precision multiwavelength eclipse photometry of the ultra-hot gas giant exoplanet WASP–103 b. *MNRAS*, 474, 2334–2351 {47}
Delrez L, Santerne A, Almenara JM, et al., 2016, WASP–121 b: a hot Jupiter close to tidal disruption transiting an active F star. *MNRAS*, 458, 4025–4043 {47}
Delrez L, Van Grootel V, Anderson DR, et al., 2014, Transiting planets from WASP–South, Euler, and TRAPPIST: WASP–68 b, WASP–73 b, and WASP–88 b, three hot Jupiters transiting evolved solar-type stars. *A&A*, 563, A143 {46}
Demangeon ODS, Faedi F, Hébrard G, et al., 2018, The discovery of WASP–151 b, WASP–153 b, WASP–156 b: Insights on giant planet migration and the upper boundary of the Neptunian desert. *A&A*, 610, A63 {47}
Demidova TV, Shevchenko II, 2018, Simulations of the dynamics of the debris disks in the systems Kepler–16, Kepler–34, and Kepler–35. *Astronomy Letters*, 44, 119–125 {28, 29}
Deming D, 2018, Helium discovered in the tail of an exoplanet. *Nature*, 557, 35–36 {47}
Deming D, Brown TM, Charbonneau D, et al., 2005, A new search for CO absorption in the transmission spectrum of the extrasolar planet HD 209458 b. *ApJ*, 622, 1149–1159 {20}
Deming D, Fraine JD, Sada PV, et al., 2012, Infrared eclipses of the strongly irradiated planet WASP–33 b, and oscillations of its host star. *ApJ*, 754, 106 {44}
Deming D, Harrington J, Laughlin G, et al., 2007a, Spitzer transit and secondary eclipse photometry of GJ 436 b. *ApJ*, 667, L199–L202 {16}
Deming D, Harrington J, Seager S, et al., 2006, Strong infrared emission from the extrasolar planet HD 189733 b. *ApJ*, 644, 560–564 {18}
Deming D, Knutson H, Agol E, et al., 2011a, Warm Spitzer photometry of the transiting exoplanets CoRoT–1 and CoRoT–2 at secondary eclipse. *ApJ*, 726, 95 {21}
Deming D, Knutson H, Kammer J, et al., 2015, Spitzer secondary eclipses of the dense, modestly-irradiated, giant exoplanet HAT–P–20 b using pixel-level decorrelation. *ApJ*, 805, 132 {25}
Deming D, Richardson LJ, Harrington J, 2007b, 3.8-μm photometry during the secondary eclipse of the extrasolar planet HD 209458 b. *MNRAS*, 378, 148–152 {20}
Deming D, Sada PV, Jackson B, et al., 2011b, Kepler and ground-based transits of the exo-Neptune HAT–P–11 b. *ApJ*, 740, 33 {24}
Deming D, Sheppard K, 2017, Spectral resolution-linked bias in transit spectroscopy of extrasolar planets. *ApJ*, 841, L3 {40}
Deming D, Wilkins A, McCullough P, et al., 2013, Infrared transmission spectroscopy of the exoplanets HD 209458 b and XO–1 b using the HST–WFC3. *ApJ*, 774, 95 {20, 48}
Demory BO, de Wit J, Lewis N, et al., 2013a, Inference of inhomogeneous clouds in an exoplanet atmosphere. *ApJ*, 776, L25 {27}
Demory BO, Ehrenreich D, Queloz D, et al., 2015, HST search for the transit of the Earth-mass exoplanet α Cen B b. *MNRAS*, 450, 2043–2051 {2}
Demory BO, Gillon M, Barman T, et al., 2007, Characterisation of the hot Neptune GJ 436 b with Spitzer and ground-based observations. *A&A*, 475, 1125–1129 {16}
Demory BO, Gillon M, Deming D, et al., 2011a, Detection of a transit of the super-Earth 55 Cnc e with warm Spitzer. *A&A*, 533, A114 {16}
Demory BO, Gillon M, Madhusudhan N, et al., 2016a, Variability in the super-Earth 55 Cnc e. *MNRAS*, 455, 2018–2027 {16}
Demory BO, Gillon M, Seager S, et al., 2012, Detection of thermal emission from a super-Earth. *ApJ*, 751, L28 {16}
Demory BO, Queloz D, Alibert Y, et al., 2016b, Probing TRAPPIST–1-like systems with K2. *ApJ*, 825, L25 {40}
Demory BO, Seager S, Madhusudhan N, et al., 2011b, The high albedo of the hot Jupiter Kepler–7 b. *ApJ*, 735, L12 {27}
Demory BO, Torres G, Neves V, et al., 2013b, Spitzer observations of GJ 3470 b: a very low-density Neptune-size planet orbiting a metal-rich M dwarf. *ApJ*, 768, 154 {17}
Dempsey AM, Nelson BE, 2018, Forming GJ 876 through smooth disk migration. *ApJ*, 867, 75 {6, 30, 40}
Désert J, Lecavelier des Etangs A, Hébrard G, et al., 2009, Search for CO in the atmosphere of the transiting exoplanet HD 189733 b. *ApJ*, 699, 478–485 {18}
Désert JM, Bean J, Miller-Ricci Kempton E, et al., 2011a, Observational evidence for a metal-rich atmosphere on the super-Earth GJ 1214 b. *ApJ*, 731, L40 {23}
Désert JM, Charbonneau D, Demory BO, et al., 2011b, The hot-Jupiter Kepler–17 b: discovery, obliquity from stroboscopic star spots, and atmospheric characterisation. *ApJS*, 197, 14 {28}
Désert JM, Charbonneau D, Fortney JJ, et al., 2011c, The atmospheres of the hot Jupiters Kepler–5 b and Kepler–6 b observed during occultations with warm Spitzer and Kepler. *ApJS*, 197, 11 {27}
Désert JM, Sing D, Vidal-Madjar A, et al., 2011d, Transit spectrophotometry of the exoplanet HD 189733 b. II. New Spitzer observations at 3.6 μm. *A&A*, 526, A12 {18}
Désert JM, Vidal-Madjar A, Lecavelier Des Etangs A, et al., 2008, TiO and VO broad band-absorption features in the optical spectrum of the atmosphere of the hot-Jupiter HD 209458 b. *A&A*, 492, 585–592 {20}
Desidera S, Bonomo AS, Claudi RU, et al., 2014, The GAPS programme with HARPS–N at TNG. IV. A planetary system around XO–2 S. *A&A*, 567, L6 {48}
Desidera S, Carolo E, Gratton R, et al., 2011, A giant planet in the triple system HD 132563. *A&A*, 533, A90 {10}
Desidera S, Gratton R, Carolo E, et al., 2012, A long-period massive planet around HD 106515A. *A&A*, 546, A108 {10}
Desidera S, Sozzetti A, Bonomo AS, et al., 2013, The GAPS programme with HARPS–N at TNG. II. No giant planets around the metal-poor star HIP 11952. *A&A*, 554, A29 {13}
Desort M, Lagrange A, Galland F, et al., 2009, Extrasolar planets and brown dwarfs around A–F type stars. V. A planetary system found with HARPS around the F6IV–V star HD 60532. *A&A*, 499, 623–625 {8}
Desort M, Lagrange AM, Galland F, et al., 2008, Extrasolar planets and brown dwarfs around A-F type stars. V. A planetary system found with HARPS around the F6IV-V star HD 60532. *A&A*, 491, 883–888 {8}
Di Gloria E, Snellen IAG, Albrecht S, 2015, Using the chromatic Rossiter–McLaughlin effect to probe the broadband signature in the optical transmission spectrum of HD 189733 b. *A&A*, 580, A84 {19}
Diamond-Lowe H, Berta-Thompson Z, Charbonneau D, et al., 2018, Ground-based optical transmission spectroscopy of the small, rocky exoplanet GJ 1132 b. *AJ*, 156, 42 {23}
Diamond-Lowe H, Stevenson KB, Bean JL, et al., 2014, New analysis indicates no thermal inversion in the atmosphere of HD 209458 b. *ApJ*, 796, 66 {20}
Díaz RF, Damiani C, Deleuil M, et al., 2013, SOPHIE velocimetry of Kepler transit candidates. VIII. KOI–205 b: a brown-dwarf companion to a K-type dwarf. *A&A*, 551, L9 {35}
Díaz RF, Hébrard G, Bouchy F, et al., 2011, Three new massive companions in the planet-brown dwarf boundary detected with SOPHIE. *EPJ Web Conf.*, volume 11, 2006 {7}
Díaz RF, Ramírez S, Fernández JM, et al., 2007, Millimagnitude photometry for transiting exoplanet candidates. II. Transits of OGLE–TR–113 b in the optical and near-infrared. *ApJ*, 660, 850–857 {39}
Díaz RF, Rey J, Demangeon O, et al., 2016a, The SOPHIE search for northern extrasolar planets. XI. Three new companions and an orbit update: giant planets in the habitable zone. *A&A*, 591, A146 {7, 12, 13}

Published by Cambridge University Press, ISBN 9781108419772

Díaz RF, Rojo P, Melita M, et al., 2008, Detection of period variations in extrasolar transiting planet OGLE–TR–111 b. *ApJ*, 682, L49–L52 {39}

Díaz RF, Santerne A, Sahlmann J, et al., 2012, The SOPHIE search for northern extrasolar planets. IV. Massive companions in the planet-brown dwarf boundary. *A&A*, 538, A113 {7, 11}

Díaz RF, Ségransan D, Udry S, et al., 2016b, The HARPS search for southern extra-solar planets. XXXVIII. Bayesian re-analysis of three systems. New super-Earths, unconfirmed signals, and magnetic cycles. *A&A*, 585, A134 {6, 8, 12}

Díez Alonso E, González Hernández JI, Suárez Gómez SL, et al., 2018, Two planetary systems with transiting Earth-sized and super-Earth planets orbiting late-type dwarf stars. *MNRAS*, 480, L1–L5 {38}

Dittmann JA, Close LM, Green EM, et al., 2009a, Follow-up observations of the Neptune mass transiting extrasolar planet HAT–P–11 b. *ApJ*, 699, L48–L51 {24}

—, 2009b, A tentative detection of a star spot during consecutive transits of an extra-solar planet from the ground: no evidence of a double transiting planet system around TrES–1. *ApJ*, 701, 756–763 {40}

Dittmann JA, Close LM, Scuderi LJ, et al., 2010, Transit observations of the WASP–10 system. *ApJ*, 717, 235–238 {42}

—, 2012, A revised orbital ephemeris for HAT–P–9 b. *New Astron.*, 17, 438–441 {24}

Dittmann JA, Irwin JM, Charbonneau D, et al., 2017a, A search for additional bodies in the GJ 1132 planetary system from 21 ground-based transits and a 100-hr Spitzer campaign. *AJ*, 154, 142 {23}

—, 2017b, A temperate rocky super-Earth transiting a nearby cool star. *Nature*, 544, 333–336 {38}

Dmitrienko ES, Savanov IS, 2018, Activity of the M8 dwarf TRAPPIST–1. *Astronomy Reports*, 62, 412–419 {40}

Do A, Tucker MA, Tonry J, 2018, Interstellar interlopers: number density and origin of Oumuamua-like objects. *ApJ*, 855, L10 {54}

Dobbs-Dixon I, Agol E, 2013, Three-dimensional radiative-hydrodynamical simulations of the highly-irradiated short-period exoplanet HD 189733 b. *MNRAS*, 435, 3159–3168 {18}

Dobbs-Dixon I, Agol E, Burrows A, 2012, The impact of circumplantary jets on transit spectra and timing offsets for hot Jupiters. *ApJ*, 751, 87 {20}

Dobbs-Dixon I, Cowan NB, 2017, Wavelength does not equal pressure: vertical contribution functions and their implications for mapping hot Jupiters. *ApJ*, 851, L26 {19}

Dobbs-Dixon I, Cumming A, Lin DNC, 2010, Radiative hydrodynamic simulations of HD 209458 b: temporal variability. *ApJ*, 710, 1395–1407 {20}

Dodson-Robinson SE, Bodenheimer P, 2009, Discovering the growth histories of exoplanets: the Saturn analogue HD 149026 b. *ApJ*, 695, L159–L162 {18}

Dodson-Robinson SE, Su KYL, Bryden G, et al., 2016, Herschel observations and updated spectral energy distributions of five sunlike stars with debris disks. *ApJ*, 833, 183 {8}

Dodson-Robinson SE, Veras D, Ford EB, et al., 2009, The formation mechanism of gas giants on wide orbits. *ApJ*, 707, 79–88 {51, 53}

Döllinger MP, Hatzes AP, Pasquini L, et al., 2007, Discovery of a planet around the K giant star 4 UMa. *A&A*, 472, 649–652 {4}

—, 2009a, Planetary companion candidates around the K giant stars 42 Dra and HD 139357. *A&A*, 499, 935–942 {3, 10}

—, 2009b, Planetary companions around the K giant stars 11 UMi and HD 32518. *A&A*, 505, 1311–1317 {4, 7}

Dominik C, Laureijs RJ, Jourdain de Muizon M, et al., 1998, A Vega–like disk associated with the planetary system of ρ^1 Cnc (55 Cnc). *A&A*, 329, L53–L56 {16}

Domokos G, Sipos AÁ, Szabó GM, et al., 2017, Explaining the elongated shape of Oumuamua by the Eikonal abrasion model. *RNAAS*, 1, 50 {54}

Donati JF, Hébrard E, Hussain GAJ, et al., 2015, Magnetic activity and hot Jupiters of young Suns: the weak-line T Tauri stars V819 Tau and V830 Tau. *MNRAS*, 453, 3706–3719 {4}

Donati JF, Moutou C, Farès R, et al., 2008, Magnetic cycles of the planet-hosting star τ Boo. *MNRAS*, 385, 1179–1185 {2}

Donati JF, Yu L, Moutou C, et al., 2017, The hot Jupiter of the magnetically active weak-line T Tauri star V830 Tau. *MNRAS*, 465, 3343–3360 {4}

Dong C, Jin M, Lingam M, et al., 2018, Atmospheric escape from the TRAPPIST–1 planets and implications for habitability. *Proceedings of the National Academy of Science*, 115, 260–265 {40}

Dong C, Lingam M, Ma Y, et al., 2017, Is Proxima Cen b habitable? A study of atmospheric loss. *ApJ*, 837, L26 {2}

Dong S, Bond IA, Gould A, et al., 2009a, Microlensing event MOA–2007–BLG–400: exhuming the buried signature of a cool, Jovian-mass planet. *ApJ*, 698, 1826–1837 {49}

Dong S, Gould A, Udalski A, et al., 2009b, OGLE–2005–BLG–71L b, the most massive M dwarf planetary companion? *ApJ*, 695, 970–987 {49}

Dong S, Katz B, Socrates A, 2013, Directly imaging tidally-powered migrating Jupiters. *ApJ*, 762, L26 {7}

Dong Y, 2014, A research on tidal evolution of extrasolar planets. *Acta Astronomica Sinica*, 55, 271–272 {22, 23, 27, 45}

Dong Y, Ji J, 2012, Tidal evolution of exo-planetary systems: WASP–50, GJ 1214 and CoRoT–7. *Science in China G: Physics and Astronomy*, 55, 872–879 {22, 23, 45}

—, 2013, Tidal evolution of the Kepler–10 system. *MNRAS*, 430, 951–960 {27}

D'Orazi V, Desidera S, Gratton RG, et al., 2017, A critical reassessment of the fundamental properties of GJ 504: chemical composition and age. *A&A*, 598, A19 {52}

Dorn C, Harrison JHD, Bonsor A, et al., 2018a, A new class of super-Earths formed from high-temperature condensates: HD 219134 b, 55 Cnc e, WASP–47 e. *MNRAS* {16, 21, 45}

Dorn C, Heng K, 2018, Secondary atmospheres on HD 219134 b and c. *ApJ*, 853, 64 {21}

Dorn C, Hinkel NR, Venturini J, 2017, Bayesian analysis of interiors of HD 219134 b, Kepler–10 b, Kepler–93 b, CoRoT–7 b, 55 Cnc e, and HD 97658 b using stellar abundance proxies. *A&A*, 597, A38 {16, 17, 21, 22, 27, 31}

Dorn C, Khan A, Heng K, et al., 2015, Can we constrain the interior structure of rocky exoplanets from mass and radius measurements? *A&A*, 577, A83 {29}

Dorn C, Mosegaard K, Grimm SL, et al., 2018b, Interior characterisation in multi-planetary systems: TRAPPIST–1. *ApJ*, 865, 20 {40}

Doyle LR, Carter JA, Fabrycky DC, et al., 2011, Kepler–16: a transiting circumbinary planet. *Science*, 333, 1602–1603 {28}

Dragomir D, Benneke B, Pearson KA, et al., 2015, Rayleigh scattering in the atmosphere of the warm exo-Neptune GJ 3470 b. *ApJ*, 814, 102 {17}

Dragomir D, Kane SR, Henry GW, et al., 2012a, The HD 192263 system: planetary orbital period and stellar variability disentangled. *ApJ*, 754, 37 {12}

Dragomir D, Kane SR, Pilyavsky G, et al., 2011, TERMS photometry of known transiting exoplanets. *AJ*, 142, 115 {42, 44}

Dragomir D, Matthews JM, Eastman JD, et al., 2013, MOST detects transits of HD 97658 b, a warm, likely volatile-rich super-Earth. *ApJ*, 772, L2 {17}

Dragomir D, Matthews JM, Howard AW, et al., 2012b, Non-detection of previously reported transits of HD 97658 b with MOST photometry. *ApJ*, 759, L41 {17}

Dragomir D, Matthews JM, Kuschnig R, et al., 2012c, A search for transits of GJ 581 e and characterisation of the host star variability using MOST photometry. *ApJ*, 759, 2 {5}

Dragomir D, Matthews JM, Winn JN, et al., 2014, New MOST photometry of the 55 Cnc system. *IAU Symposium*, volume 293 of *IAU Symp.*, 52–57 {16}

Drahus M, Guzik P, Waniak W, et al., 2017, Tumbling motion of Oumuamua reveals body's violent past. *ArXiv e-prints* {54}

—, 2018, Tumbling motion of Oumuamua and its implications for the body's distant past. *Nature Astronomy*, 2, 407–412 {54}

Dravins D, Ludwig HG, Dahlén E, et al., 2017, Spatially resolved spectroscopy across stellar surfaces. II. High-resolution spectra across HD 209458. *A&A*, 605, A91 {21}

Dreizler S, Rauch T, Hauschildt P, et al., 2002, Spectral types of planetary host star candidates: two new transiting planets? *A&A*, 391, L17–L20 {39}

Dressing CD, Charbonneau D, Dumusque X, et al., 2015, The mass of Kepler–93 b and the composition of terrestrial planets. *ApJ*, 800, 135 {31}

Dressing CD, Sinukoff E, Fulton BJ, et al., 2018, Characterising K2 candidate planetary systems orbiting low-mass stars. III. A high mass and low envelope fraction for the warm Neptune K2–55 b. *AJ*, 156, 70 {37}

Dressing CD, Vanderburg A, Schlieder JE, et al., 2017, Characterising K2 candidate planetary systems orbiting low-mass stars. II. Planetary systems observed during Campaigns 1–7. *AJ*, 154, 207 {38}

Drummond B, Mayne NJ, Manners J, et al., 2018a, Observable signatures of wind-driven chemistry with a fully consistent three-dimensional radiative hydrodynamics model of HD 209458 b. *ApJ*, 855, L31 {21}

—, 2018b, The 3D thermal, dynamical, and chemical structure of the atmosphere of HD 189733 b: implications of wind-driven chemistry for the emission phase curve. *ApJ*, 869, 28 {19}

Ducrot E, Sestovic M, Morris BM, et al., 2018, The 0.8–4.5 μm broadband transmission spectra of TRAPPIST–1 planets. *AJ*, 156, 218 {40}

Dumusque X, Boisse I, Santos NC, 2014a, SOAP 2.0: a tool to estimate the photometric and radial velocity variations induced by stellar spots and plages. *ApJ*, 796, 132 {19}

Dumusque X, Bonomo AS, Haywood RD, et al., 2014b, The Kepler–10 planetary system revisited by HARPS–N: a hot rocky world and a solid Neptune-mass planet. *ApJ*, 789, 154 {27}

Dumusque X, Lovis C, Ségransan D, et al., 2011a, The HARPS search for southern extrasolar planets. XXX. Planetary systems around stars with solar-like magnetic cycles and short-term activity variation. *A&A*, 535, A55 {6, 10, 12}

Dumusque X, Pepe F, Lovis C, et al., 2012, An Earth-mass planet orbiting α Cen B. *Nature*, 491, 207–211 {2}

Dumusque X, Udry S, Lovis C, et al., 2011b, Planetary detection limits taking into account stellar noise. I. Observational strategies to reduce stellar oscillation and granulation effects. *A&A*, 525, A140 {1, 2, 3}

Dunham EW, Borucki WJ, Koch DG, et al., 2010, Kepler–6 b: a transiting hot Jupiter orbiting a metal-rich star. *ApJ*, 713, L136–L139 {27}

Dunhill AC, Alexander RD, 2013, The curiously circular orbit of Kepler–16 b. *MNRAS*, 435, 2328–2334 {28}

Dupuy TJ, Kratter KM, Kraus AL, et al., 2016, Orbital architectures of planet-hosting binaries. I. Forming five small planets in the truncated disk of Kepler–444A. *ApJ*, 817, 80 {35}

Dutrey A, Wakelam V, Boehler Y, et al., 2011, Chemistry in disks. V. Sulphur-bearing molecules in the protoplanetary disks surrounding LkCa 15, MW 480, DM Tau, and GO Tau. *A&A*, 535, A104 {54}

Dvorak R, Pilat-Lohinger E, Bois E, et al., 2004, Planets in double stars: the γ Cep system. *Revista Mexicana de Astronomia y Astrofisica Conference Series*, volume 21, 222–226 {2}

Dvorak R, Pilat-Lohinger E, Funk B, et al., 2003a, Planets in habitable zones: a study of the binary γ Cep. *A&A*, 398, L1–L4 {2}

—, 2003b, A study of the stable regions in the planetary system HD 74156: can it host Earth-like planets in habitable zones? *A&A*, 410, L13–L16 {9}

Dybczyński PA, Królikowska M, 2018, Investigating the dynamical history of the interstellar object Oumuamua. *A&A*, 610, L11 {54}

Dzigan Y, Zucker S, 2011, Directed follow-up strategy of low-cadence photometric surveys in search of transiting exoplanets. I. Bayesian approach for adaptive scheduling. *MNRAS*, 415, 2513–2522 {18, 20}

Eastman J, Gaudi BS, Agol E, 2013, EXOFAST: a fast exoplanetary fitting suite in IDL. *PASP*, 125, 83–112 {24}

Eastman JD, Beatty TG, Siverd RJ, et al., 2016, KELT–4A b: an inflated hot Jupiter transiting the bright ($V \sim 10$) component of a hierarchical triple. *AJ*, 151, 45 {26}

Eberle J, Cuntz M, 2010, On the reality of the suggested planet in the ν Oct system. *ApJ*, 721, L168–L171 {3}

Eberle J, Cuntz M, Quarles B, et al., 2011, Case studies of habitable Trojan planets in the system of HD 23079. *Int. J. Astrobiol.*, 10, 325–334 {7}

Eggenberger A, Mayor M, Naef D, et al., 2006, The CORALIE survey for southern ex-

Published by Cambridge University Press, ISBN 9781108419772

trasolar planets. XIV. HD 142022 b: a long-period planetary companion in a wide binary. *A&A*, 447, 1159–1163 {11}
Eggenberger P, Charbonnel C, Talon S, et al., 2004, Analysis of α Cen AB including seismic constraints. *A&A*, 417, 235–246 {2}
Eggl S, Haghighipour N, Pilat-Lohinger E, 2013, Detectability of Earth-like planets in circumstellar habitable zones of binary star systems with Sun-like components. *ApJ*, 764, 130 {2}
Ehrenreich D, Bonfils X, Lovis C, et al., 2014, Near-infrared transmission spectrum of the warm-Uranus GJ 3470 b with HST–WFC3. *A&A*, 570, A89 {17}
Ehrenreich D, Bourrier V, Bonfils X, et al., 2012, Hint of a transiting extended atmosphere on 55 Cnc b. *A&A*, 547, A18 {16}
Ehrenreich D, Bourrier V, Wheatley PJ, et al., 2015, A giant comet-like cloud of hydrogen escaping the warm Neptune-mass exoplanet GJ 436 b. *Nature*, 522, 459–461 {17}
Ehrenreich D, Désert JM, 2011, Mass-loss rates for transiting exoplanets. *A&A*, 529, A136 {18, 20, 41, 42, 43}
Ehrenreich D, Hébrard G, Lecavelier des Etangs A, et al., 2007, A Spitzer search for water in the transiting exoplanet HD 189733 b. *ApJ*, 668, L179–L182 {18}
Ehrenreich D, Lecavelier des Etangs A, Beaulieu JP, et al., 2006, On the possible properties of small and cold extrasolar planets: is OGLE–2005–BLG–390L b entirely frozen? *ApJ*, 651, 535–543 {50}
Ehrenreich D, Lecavelier Des Etangs A, Delfosse X, 2011, HST–STIS Lyman-α observations of the quiet M dwarf GJ 436. Predictions for the exospheric transit signature of the hot Neptune GJ 436 b. *A&A*, 529, A80 {16}
Ehrenreich D, Lecavelier des Etangs A, Hébrard G, et al., 2008, New observations of the extended hydrogen exosphere of the extrasolar planet HD 209458 b. *A&A*, 483, 933–937 {20}
Eibe MT, Cuesta L, Ullán A, et al., 2012, Analysis of variations in transit time and transit duration in WASP–3: evidence of secular perturbations reconsidered. *MNRAS*, 423, 1381–1389 {42}
Eigmüller P, Gandolfi D, Persson CM, et al., 2017, K2–60 b and K2–107 b: a sub-Jovian and a Jovian planet from the K2 mission. *AJ*, 153, 130 {37, 38}
Ekenbäck A, Holmström M, Wurz P, et al., 2010, Energetic neutral atoms around HD 209458 b: estimations of magnetospheric properties. *ApJ*, 709, 670–679 {20}
Els SG, Sterzik MF, Marchis F, et al., 2001, A second substellar companion in the GJ 86 system: a brown dwarf in an extrasolar planetary system. *A&A*, 370, L1–L4 {4}
Elser S, Grimm SL, Stadel JG, 2013, Super-Earths and dynamical stability of planetary systems: first parallel GPU simulations using GENGA. *MNRAS*, 433, 2194–2205 {7, 8, 11, 12, 13}
Emelyanenko VV, 2011, A study on dynamic processes at late stages in the formation of planetary systems in gas and dust disks. *Sol. Syst. Res.*, 45, 402–409 {5}
Endl M, Bergmann C, Hearnshaw J, et al., 2015, The Mt John University Observatory search for Earth-mass planets in the habitable zone of α Cen. *Int. J. Astrobiol.*, 14, 305–312 {2}
Endl M, Brugamyer EJ, Cochran WD, et al., 2016, Two new long-period giant planets from the McDonald Observatory planet search and two stars with long-period radial velocity signals related to stellar activity cycles. *ApJ*, 818, 34 {3, 9}
Endl M, Caldwell DA, Barclay T, et al., 2014, Kepler–424 b: a lonely hot Jupiter that found a companion. *ApJ*, 795, 151 {30, 31, 34}
Endl M, Cochran WD, Wittenmyer RA, et al., 2006, Determination of the orbit of the planetary companion to the metal-rich star HD 45350. *AJ*, 131, 3131–3134 {8}
—, 2008, An $M \sin i = 24 M_\oplus$ planetary companion to the nearby M dwarf GJ 176. *ApJ*, 673, 1165–1168 {13}
Endl M, Kürster M, 2008, Toward detection of terrestrial planets in the habitable zone of our closest neighbour: Proxima Cen. *A&A*, 488, 1149–1153 {2}
Endl M, Kürster M, Els S, et al., 2001, The planet search programme at the ESO Coudé echelle spectrometer. II. The α Cen system: limits for planetary companions. *A&A*, 374, 675–681 {2}
Endl M, MacQueen PJ, Cochran WD, et al., 2011, Kepler–15 b: a hot Jupiter enriched in heavy elements and the first Kepler mission planet confirmed with the Hobby–Eberly telescope. *ApJS*, 197, 13 {28}
Endl M, Robertson P, Cochran WD, et al., 2012, Revisiting ρ^1 Cnc e (55 Cnc e): a new mass determination of the transiting super-Earth. *ApJ*, 759, 19 {16}
Enoch B, Anderson DR, Barros SCC, et al., 2011a, WASP–35 b, WASP–48 b, and HAT–P–30 b/WASP–51 b: two new planets and an independent discovery of a HAT planet. *AJ*, 142, 86–94 {25, 45}
Enoch B, Collier Cameron A, Anderson DR, et al., 2011b, WASP–25 b: a 0.6 Jupiter-mass planet in the southern hemisphere. *MNRAS*, 410, 1631–1636 {44}
Enriquez JE, Siemion A, Lazio TJW, et al., 2018, Breakthrough Listen observations of Oumuamua with the GBT. *RNAAS*, 2, 9 {54}
Érdi B, Dvorak R, Sándor Z, et al., 2004, The dynamical structure of the habitable zone in the HD 38529, HD 168443 and HD 169830 systems. *MNRAS*, 351, 1043–1048 {8, 11}
Erkaev NV, Kulikov YN, Lammer H, et al., 2007, Roche lobe effects on the atmospheric loss from hot Jupiters. *A&A*, 472, 329–334 {20, 39, 40}
Erkaev NV, Odert P, Lammer H, et al., 2017, Effect of stellar wind induced magnetic fields on planetary obstacles of non-magnetised hot Jupiters. *MNRAS*, 470, 4330–4336 {21}
Escobar ME, Théado S, Vauclair S, et al., 2012, Precise modeling of the exoplanet host star and CoRoT main target HD 52265. *A&A*, 543, A96 {8}
Espinoza N, Bayliss D, Hartman JD, et al., 2016a, HATS–25 b through HATS–30 b: a half-dozen new inflated transiting hot Jupiters from the HAT–South survey. *AJ*, 152, 108 {26}
Espinoza N, Brahm R, Jordán A, et al., 2016b, Discovery and validation of a high-density sub-Neptune from the K2 mission. *ApJ*, 830, 43 {37}
Espinoza N, Rabus M, Brahm R, et al., 2017, K2–113: a dense hot-Jupiter transiting a solar analogue. *MNRAS*, 471, 4374–4380 {38}
Esposito M, Covino E, Desidera S, et al., 2017, The GAPS Programme with HARPS–N at TNG. XIII. The orbital obliquity of three close-in massive planets hosted by dwarf K-type stars: WASP–43, HAT–P–20 and Qatar–2. *A&A*, 601, A53 {25, 39, 45}
Esposito M, Covino E, Mancini L, et al., 2014, The GAPS Programme with HARPS–N at TNG. III. The retrograde orbit of HAT–P–18 b. *A&A*, 564, L13 {25}
Esposito S, Mesa D, Skemer A, et al., 2013, LBT observations of the HR 8799 planetary system: first detection of HR 8799 e in H band. *A&A*, 549, A52 {53}
Essick R, Weinberg NN, 2016, Orbital decay of hot Jupiters due to nonlinear tidal dissipation within Solar-type hosts. *ApJ*, 816, 18 {22, 26, 44, 45}
Esteves LJ, De Mooij EJW, Jayawardhana R, 2013, Optical phase curves of Kepler exoplanets. *ApJ*, 772, 51 {24, 27, 28, 31, 41}
—, 2015, Changing phases of alien worlds: probing atmospheres of Kepler planets with high-precision photometry. *ApJ*, 804, 150 {24, 27, 28, 30, 31, 34, 41}
Esteves LJ, de Mooij EJW, Jayawardhana R, et al., 2017, A search for water in a super-Earth atmosphere: high-resolution optical spectroscopy of 55 Cnc e. *AJ*, 153, 268 {16}
Estrela R, Valio A, 2016, Stellar magnetic cycles in the solar-like stars Kepler–17 and Kepler–63. *ApJ*, 831, 57 {28, 30}
—, 2018, Superflare ultraviolet impact on Kepler–96 system: a glimpse of habitability when the ozone layer first formed on Earth. *Astrobiology*, 18, 1414–1424 {32}
Evans DF, Southworth J, Smalley B, 2016a, WASP–20 is a close visual binary with a transiting hot Jupiter. *ApJ*, 833, L19 {44}
Evans TM, Pont F, Sing DK, et al., 2013, The deep blue colour of HD 189733 b: albedo measurements with HST–STIS at visible wavelengths. *ApJ*, 772, L16 {18}
Evans TM, Sing DK, Goyal JM, et al., 2018, An optical transmission spectrum for the ultra-hot Jupiter WASP–121 b measured with the Hubble Space Telescope. *AJ*, 156, 283 {47}
Evans TM, Sing DK, Wakeford HR, et al., 2016b, Detection of H_2O and evidence for TiO/VO in an ultra-hot exoplanet atmosphere. *ApJ*, 822, L4 {47}
Everett ME, Barclay T, Ciardi DR, et al., 2015, High-resolution multi-band imaging for validation and characterisation of small Kepler planets. *AJ*, 149, 55 {34}
Fabrycky DC, Ford EB, Steffen JH, et al., 2012, Transit timing observations from Kepler. IV. Confirmation of four multiple-planet systems by simple physical models. *ApJ*, 750, 114 {29}
Fabrycky DC, Holman MJ, Carter JA, et al., 2011, KOI–730 as a system of four planets in a chain of resonances. *AAS Abstracts*, 2, 304 {33}
Fabrycky DC, Murray-Clay RA, 2010, Stability of the directly imaged multi-planet system HR 8799: resonance and masses. *ApJ*, 710, 1408–1421 {53}
Faedi F, Barros SCC, Anderson DR, et al., 2011, WASP–39 b: a highly inflated Saturn-mass planet orbiting a late G-type star. *A&A*, 531, A40 {45}
Faedi F, Pollacco D, Barros SCC, et al., 2013a, WASP–54 b, WASP–56 b and WASP–57 b: three new sub-Jupiter mass planets from SuperWASP. *A&A*, 551, A73 {46}
Faedi F, Staley T, Gómez Maqueo Chew Y, et al., 2013b, Lucky imaging of transiting planet host stars with LuckyCam. *MNRAS*, 433, 2097–2106 {21, 22, 24, 40, 41}
Faigler S, Mazeh T, 2015, BEER analysis of Kepler and CoRoT light curves. II. Evidence for superrotation in the phase curves of three Kepler hot Jupiters. *ApJ*, 800, 73 {24, 28, 31, 41}
Faigler S, Tal-Or L, Mazeh T, et al., 2013, BEER analysis of Kepler and CoRoT light curves. I. Discovery of Kepler–76 b: a hot Jupiter with evidence for superrotation. *ApJ*, 771, 26 {31}
Fang J, Margot JL, 2012, Predicting planets in Kepler multi-planet systems. *ApJ*, 751, 23 {27, 30, 32, 34, 35}
Faramaz V, Beust H, Augereau JC, et al., 2015, Insights on the dynamical history of the Fomalhaut system: investigating the Fomalhaut c hypothesis. *A&A*, 573, A87 {51}
Fares R, Bourrier V, Vidotto AA, et al., 2017, MOVES. I. The evolving magnetic field of the planet-hosting star HD 189733. *MNRAS*, 471, 1246–1257 {19}
Fares R, Donati J, Moutou C, et al., 2009, Magnetic cycles of the planet-hosting star τ Boo. II. A second magnetic polarity reversal. *MNRAS*, 398, 1383–1391 {2}
Fares R, Donati JF, Moutou C, et al., 2010, Searching for star–planet interactions within the magnetosphere of HD 189733. *MNRAS*, 406, 409–419 {18}
—, 2012, Magnetic field, differential rotation and activity of the hot-Jupiter-hosting star HD 179949. *MNRAS*, 423, 1006–1017 {12}
Fares R, Moutou C, Donati JF, et al., 2013, A small survey of the magnetic fields of planet-host stars. *MNRAS*, 435, 1451–1462 {2, 8, 9, 10, 12, 22, 23, 48}
Faria JP, Haywood RD, Brewer BJ, et al., 2016, Uncovering the planets and stellar activity of CoRoT–7 using only radial velocities. *A&A*, 588, A31 {22}
Farihi J, Bond HE, Dufour P, et al., 2013, Orbital and evolutionary constraints on the planet hosting binary GJ 86 from HST. *MNRAS*, 430, 652–660 {4}
Farihi J, Burleigh MR, Holberg JB, et al., 2011, Evolutionary constraints on the planet-hosting subgiant ϵ Ret from its white dwarf companion. *MNRAS*, 417, 1735–1741 {7}
Farrell WM, Lazio TJW, Desch MD, et al., 2004, Radio emission from extrasolar planets. *Bioastronomy 2002: Life Among the Stars*, volume 213 of *IAU Symp.*, 73–76 {10}
Feng F, Jones HRA, 2018a, Oumuamua as a messenger from the Local Association. *ApJ*, 852, L27 {54}
—, 2018b, Understanding Fomalhaut as a Cooper pair. *MNRAS*, 474, 4412–4420 {51}
Feng F, Tuomi M, Jones HRA, 2017a, Agatha: disentangling periodic signals from correlated noise in a periodogram framework. *MNRAS*, 470, 4794–4814 {8, 12, 22}
—, 2017b, Evidence for at least three planet candidates orbiting HD 20794. *A&A*, 605, A103 {7}
Feng F, Tuomi M, Jones HRA, et al., 2017c, Colour difference makes a difference: four planet candidates around τ Cet. *AJ*, 154, 135 {3}
Feng YK, Line MR, Fortney JJ, et al., 2016, The impact of non-uniform thermal structure on the interpretation of exoplanet emission spectra. *ApJ*, 829, 52 {45}
Feng YK, Wright JT, Nelson B, et al., 2015, The California Planet Survey. IV. A planet orbiting the giant star HD 145934 and updates to seven systems with long-period planets. *ApJ*, 800, 22 {5, 7, 8, 9, 11, 12, 13}
Fernandes J, Santos NC, 2004, Detailed theoretical models for extrasolar planet-host stars: the red stragglers HD 37124 and HD 46375. *A&A*, 427, 607–612 {7, 8}
Fernandez JM, Holman MJ, Winn JN, et al., 2009, The Transit Light Curve Project. XII. Six transits of the exoplanet XO–2 b. *AJ*, 137, 4911–4916 {48}

Published by Cambridge University Press, ISBN 9781108419772

Feroz F, Balan ST, Hobson MP, 2011a, Bayesian evidence for two companions orbiting HIP 5158. *MNRAS*, 416, L104–L108 {13}

—, 2011b, Detecting extrasolar planets from stellar radial velocities using Bayesian evidence. *MNRAS*, 415, 3462–3472 {4, 6, 7}

Feroz F, Hobson MP, 2014, Bayesian analysis of radial velocity data of GJ 667C with correlated noise: evidence for only two planets. *MNRAS*, 437, 3540–3549 {5}

Ferraz-Mello S, Michtchenko TA, Beaugé C, 2005, The orbits of the extrasolar planets HD 82943 c and b. *ApJ*, 621, 473–481 {9}

Ferraz-Mello S, Tadeu Dos Santos M, Beaugé C, et al., 2011, On the mass determination of super-Earths orbiting active stars: the CoRoT–7 system. *A&A*, 531, A161 {22}

Figueira P, Marmier M, Bonfils X, et al., 2010, Evidence against the young hot-Jupiter around BD+20 1790. *A&A*, 513, L8 {4}

Figueira P, Pont F, Mordasini C, et al., 2009, Bulk composition of the transiting hot Neptune around GJ 436. *A&A*, 493, 671–676 {16}

Figueira P, Santerne A, Suárez Mascareño A, et al., 2016, Is the activity level of HD 80606 influenced by its eccentric planet? *A&A*, 592, A143 {17}

Fischer DA, Butler RP, Marcy GW, et al., 2003a, A sub-Saturn mass planet orbiting HD 3651. *ApJ*, 590, 1081–1087 {6}

Fischer DA, Driscoll P, Isaacson H, et al., 2009, Five planets and an independent confirmation of HD 196885 b from Lick Observatory. *ApJ*, 703, 1545–1556 {7, 9, 11, 12}

Fischer DA, Gaidos E, Howard AW, et al., 2012, M2K. II. A triple-planet system orbiting HIP 57274. *ApJ*, 745, 21 {13}

Fischer DA, Laughlin G, Butler P, et al., 2005, The N2K consortium. I. A hot Saturn planet orbiting HD 88133. *ApJ*, 620, 481–486 {9}

Fischer DA, Laughlin G, Marcy GW, et al., 2006, The N2K consortium. III. Short-period planets orbiting HD 149143 and HD 109749. *ApJ*, 637, 1094–1101 {10, 11}

Fischer DA, Marcy GW, Butler RP, et al., 1999, Planetary companions around two solar-type stars: HD 195019 and HD 217107. *PASP*, 111, 50–56 {12, 13}

—, 2001, Planetary companions to HD 12661, HD 92788, and HD 38529 and variations in Keplerian residuals of extrasolar planets. *ApJ*, 551, 1107–1118 {7, 8, 9}

—, 2002a, Planetary companions to HD 136118, HD 50554, and HD 106252. *PASP*, 114, 529–535 {8, 10}

—, 2002b, A second planet orbiting 47 UMa. *ApJ*, 564, 1028–1034 {4}

—, 2003b, A planetary companion to HD 40979 and additional planets orbiting HD 12661 and HD 38529. *ApJ*, 586, 1394–1408 {7, 8}

—, 2008, Five planets orbiting 55 Cnc. *ApJ*, 675, 790–801 {16}

Fischer DA, Vogt SS, Marcy GW, et al., 2007, Five intermediate-period planets from the N2K sample. *ApJ*, 669, 1336–1344 {7, 10, 12, 13, 17}

Fischer PD, Knutson HA, Sing DK, et al., 2016, HST hot-Jupiter transmission spectral survey: clear skies for cool Saturn WASP–39 b. *ApJ*, 827, 19 {45}

Fitzgerald MP, Kalas PG, Graham JR, 2009, Orbital constraints on the β Pic inner planet candidate with Keck adaptive optics. *ApJ*, 706, L41–L45 {52}

Fitzsimmons A, Snodgrass C, Rozitis B, et al., 2018, Spectroscopy and thermal modelling of the first interstellar object Oumuamua. *Nature Astronomy*, 2, 133–137 {54}

Floß J, Rein H, Brumer P, 2018, Dimensionality and integrals of motion of the TRAPPIST–1 planetary system. *MNRAS*, 477, 4874–4878 {40}

Fogtmann-Schulz A, Hinrup B, Van Eylen V, et al., 2014, Accurate parameters of the oldest known rocky-exoplanet hosting system: Kepler–10 revisited. *ApJ*, 781, 67 {27}

Föhring D, Dhillon VS, Madhusudhan N, et al., 2013, ULTRACAM z'-band detection of the secondary eclipse of WASP–12 b. *MNRAS*, 435, 2268–2273 {43}

Follette KB, Rameau J, Dong R, et al., 2017, Complex spiral structure in the HD 100546 transitional disk as revealed by Gemini–GPI and MagAO. *AJ*, 153, 264 {53}

Folsom CP, Fossati L, Wood BE, et al., 2018, Characterisation of the HD 219134 multi-planet system. I. Observations of stellar magnetism, wind, and high-energy flux. *MNRAS*, 481, 5286–5295 {21}

Ford EB, Fabrycky DC, Steffen JH, et al., 2012, Transit timing observations from Kepler. II. Confirmation of two multi-planet systems via a non-parametric correlation analysis. *ApJ*, 750, 113 {28, 29}

Ford EB, Lystad V, Rasio FA, 2005, Planet–planet scattering in the υ And system. *Nature*, 434, 873–876 {1}

Foreman-Mackey D, Morton TD, Hogg DW, et al., 2016, The population of long-period transiting exoplanets. *AJ*, 152, 206 {32, 33, 34, 35, 36}

Forgan DH, 2012, Oscillations in the habitable zone around α Cen B. *MNRAS*, 422, 1241–1249 {2}

—, 2014, Assessing circumbinary habitable zones using latitudinal energy balance modelling. *MNRAS*, 437, 1352–1361 {28, 29, 30}

—, 2016, Milankovitch cycles of terrestrial planets in binary star systems. *MNRAS*, 463, 2768–2780 {2, 30}

Forgan DH, Mead A, Cockell CS, et al., 2015, Surface flux patterns on planets in circumbinary systems and potential for photosynthesis. *Int. J. Astrobiol.*, 14, 465–478 {28, 30}

Fortney JJ, Demory BO, Désert JM, et al., 2011, Discovery and atmospheric characterisation of giant planet Kepler–12 b: an inflated radius outlier. *ApJS*, 197, 9 {28}

Fortney JJ, Marley MS, Lodders K, et al., 2005, Comparative planetary atmospheres: models of TrES–1 and HD 209458 b. *ApJ*, 627, L69–L72 {20, 40}

Fortney JJ, Mordasini C, Nettelmann N, et al., 2013, A framework for characterising the atmospheres of low-mass low-density transiting planets. *ApJ*, 775, 80 {23}

Fortney JJ, Saumon D, Marley MS, et al., 2006, Atmosphere, interior, and evolution of the metal-rich transiting planet HD 149026 b. *ApJ*, 642, 495–504 {17}

Fortney JJ, Shabram M, Showman AP, et al., 2010, Transmission spectra of three-dimensional hot Jupiter model atmospheres. *ApJ*, 709, 1396–1406 {18, 20}

Fortney JJ, Sudarsky D, Hubeny I, et al., 2003, On the indirect detection of sodium in the atmosphere of the planetary companion to HD 209458. *ApJ*, 589, 615–622 {19}

Forveille T, Bonfils X, Delfosse X, et al., 2009, The HARPS search for southern extrasolar planets. XIV. GJ 176 b, a super-Earth rather than a Neptune, and at a different period. *A&A*, 493, 645–650 {13}

—, 2011a, The HARPS search for southern extrasolar planets. XXXII. Only four planets in the GJ 581 system [unpublished] *ArXiv e-prints* {5}

Forveille T, Bonfils X, Lo Curto G, et al., 2011b, The HARPS search for southern extrasolar planets. XXVI. Two giant planets around M0 dwarfs. *A&A*, 526, A141 {5, 13}

Fossati L, Ayres TR, Haswell CA, et al., 2013a, Absorbing gas around the WASP–12 planetary system. *ApJ*, 766, L20 {43}

—, 2014, Searching for a gas cloud surrounding the WASP–18 planetary system. *Ap&SS*, 354, 21–28 {44}

Fossati L, Bagnulo S, Elmasli A, et al., 2010a, A detailed spectropolarimetric analysis of the planet-hosting star WASP–12. *ApJ*, 720, 872–886 {42}

Fossati L, France K, Koskinen T, et al., 2015, Far-ultraviolet spectroscopy of the planet-hosting star WASP–13: high-energy irradiance, distance, age, planetary mass-loss rate, and circumstellar environment. *ApJ*, 815, 118 {43}

Fossati L, Haswell CA, Froning CS, et al., 2010b, Metals in the exosphere of the highly-irradiated planet WASP–12 b. *ApJ*, 714, L222–L227 {42}

Fossati L, Kochukhov O, Jenkins JS, et al., 2013b, Detection of a magnetic field in three old and inactive solar-like planet-hosting stars. *A&A*, 551, A85 {9, 10}

Fossati L, Koskinen T, France K, et al., 2018, Suppressed far-UV stellar activity and low planetary mass loss in the WASP–18 system. *AJ*, 155, 113 {44}

Fossati L, Marcelja SE, Staab D, et al., 2017, The effect of ISM absorption on stellar activity measurements and its relevance for exoplanet studies. *A&A*, 601, A104 {43}

Fossey SJ, Waldmann IP, Kipping DM, 2009, Detection of a transit by the planetary companion of HD 80606. *MNRAS*, 396, L16–L20 {17}

Fraine JD, Deming D, Benneke B, et al., 2014, Water vapour absorption in the clear atmosphere of a Neptune-sized exoplanet. *Nature*, 513, 526–529 {24}

Fraine JD, Deming D, Gillon M, et al., 2013, Spitzer transits of the super-Earth GJ 1214 b and implications for its atmosphere. *ApJ*, 765, 127 {23}

François P, Briot D, Spite F, et al., 1999, Line profile variation and planets around 51 Peg and υ And. *A&A*, 349, 220–224 {1, 3}

France K, Froning CS, Linsky JL, et al., 2013, The ultraviolet radiation environment around M dwarf exoplanet host stars. *ApJ*, 763, 149 {5, 17, 23}

France K, Linsky JL, Tian F, et al., 2012, Time-resolved ultraviolet spectroscopy of the M dwarf GJ 876 exoplanetary system. *ApJ*, 750, L32 {5}

France K, Linsky JL, Yang H, et al., 2011, HST–COS observations of the transiting extrasolar planetary system HD 209458 b. *Ap&SS*, 335, 25–32 {20}

France K, Stocke JT, Yang H, et al., 2010, Searching for far-ultraviolet auroral/dayglow emission from HD 209458 b. *ApJ*, 712, 1277–1286 {20}

Franck S, Cuntz M, von Bloh W, et al., 2003, The habitable zone of Earth-mass planets around 47 UMa: results for land and water worlds. *Int. J. Astrobiol.*, 2, 35–39 {4}

Fraser WC, Pravec P, Fitzsimmons A, et al., 2018, The tumbling rotational state of Oumuamua. *Nature Astronomy*, 2, 383–386 {54}

Freistetter F, Krivov AV, Löhne T, 2007, Planets of β Pic revisited. *A&A*, 466, 389–393 {52}

Freistetter F, Süli Á, Funk B, 2009, Dynamics of the TrES–2 system. *Astron. Nach.*, 330, 469–474 {40}

Fressin F, Knutson HA, Charbonneau D, et al., 2010, The broadband infrared emission spectrum of the exoplanet TrES–3. *ApJ*, 711, 374–379 {41}

Fressin F, Torres G, Désert JM, et al., 2011, Kepler–10 c: a $2.2R_{\oplus}$ transiting planet in a multiple system. *ApJS*, 197, 5 {27}

Fressin F, Torres G, Pont F, et al., 2012a, Spitzer infrared observations and independent validation of the transiting super-Earth CoRoT–7 b. *ApJ*, 745, 81 {22}

Fressin F, Torres G, Rowe JF, et al., 2012b, Two Earth-sized planets orbiting Kepler–20. *Nature*, 482, 195–198 {28}

Freudenthal J, von Essen C, Dreizler S, et al., 2018, Kepler Object of Interest network. II. Photodynamical modelling of Kepler–9 over 8 years of transit observations. *A&A*, 618, A41 {27}

Fridlund CVM, Hébrard G, Alonso R, et al., 2010, Transiting exoplanets from the CoRoT space mission. IX. CoRoT–6 b: a transiting hot Jupiter planet in an 8.9 d orbit around a low-metallicity star. *A&A*, 512, A14 {22}

Fridlund M, Gaidos E, Barragán O, et al., 2017, K2–111 b: a short period super-Earth transiting a metal poor, evolved old star. *A&A*, 604, A16 {38}

Frink S, Mitchell DS, Quirrenbach A, et al., 2002, Discovery of a substellar companion to the K2 III giant ι Dra. *ApJ*, 576, 478–484 {13}

Fröhlich HE, Küker M, Hatzes AP, et al., 2009, On the differential rotation of CoRoT–2. *A&A*, 506, 263–268 {21}

Fruth T, Cabrera J, Csizmadia S, et al., 2014, Transit search from Antarctica and Chile: comparison and combination. *PASP*, 126, 227–242 {44}

Fuhrmann K, Pfeiffer MJ, Bernkopf J, 1997, Solar-type stars with planetary companions: 51 Peg and 47 UMa. *A&A*, 326, 1081–1089 {3, 4}

—, 1998, F- and G-type stars with planetary companions: υ And, ρ^1 Cnc (55 Cnc), τ Boo, 16 Cyg and ρ CrB. *A&A*, 336, 942–952 {1, 2, 3, 16}

Fukagawa M, Itoh Y, Tamura M, et al., 2009, H-band image of a planetary companion around HR 8799 in 2002. *ApJ*, 696, L1–L5 {53}

Fukui A, Gould A, Sumi T, et al., 2015, OGLE–2012–BLG–563L b: a Saturn-mass planet around an M dwarf with the mass constrained by Subaru adaptive optics imaging. *ApJ*, 809, 74 {50}

Fukui A, Kawashima Y, Ikoma M, et al., 2014, Multi-band, multi-epoch observations of the transiting warm Jupiter WASP–80 b. *ApJ*, 790, 108 {46}

Fukui A, Livingston J, Narita N, et al., 2016a, Ground-based transit observation of the habitable-zone super-Earth K2–3 d. *AJ*, 152, 171 {37}

Fukui A, Narita N, Kawashima Y, et al., 2016b, Demonstrating high-precision, multi-band transit photometry with MuSCAT: a case for HAT–P–14 b. *ApJ*, 819, 27 {25}

Fukui A, Narita N, Kurosaki K, et al., 2013, Optical-to-near-infrared simultaneous observations for the hot Uranus GJ 3470 b: a hint of a cloud-free atmosphere. *ApJ*, 770, 95 {17}

Published by Cambridge University Press, ISBN 9781108419772

Fukui A, Narita N, Tristram PJ, et al., 2011, Measurements of transit timing variations for WASP–5 b. *PASJ*, 63, 287–300 {42}

Fulton BJ, Collins KA, Gaudi BS, et al., 2015a, KELT–8 b: a highly inflated transiting hot Jupiter and a new technique for extracting high-precision radial velocities from noisy spectra. *ApJ*, 810, 30 {27}

Fulton BJ, Howard AW, Weiss LM, et al., 2016, Three temperate Neptunes orbiting nearby stars. *ApJ*, 830, 46 {3, 8, 11}

Fulton BJ, Howard AW, Winn JN, et al., 2013, The stellar obliquity and the long-period planet in the HAT–P–17 exoplanetary system. *ApJ*, 772, 80 {25}

Fulton BJ, Shporer A, Winn JN, et al., 2011, Long-term transit timing monitoring and refined light curve parameters of HAT–P–13 b. *AJ*, 142, 84 {25}

Fulton BJ, Weiss LM, Sinukoff E, et al., 2015b, Three super-Earths orbiting HD 7924. *ApJ*, 805, 175 {6}

Funk B, Pilat-Lohinger E, Bazsó Á, et al., 2017, On the stability of the detected planet in the triple system HD 131399. *Proceedings of the First Greek-Austrian Workshop on Extrasolar Planetary Systems*, 115–124 {53}

Funk B, Pilat-Lohinger E, Eggl S, 2015, Can there be additional rocky planets in the habitable zone of tight binary stars with a known gas giant? *MNRAS*, 448, 3797–3805 {3, 4, 8, 12}

Funk B, Schwarz R, Süli Á, et al., 2012, On the stability of possible Trojan planets in the habitable zone: an application to HD 147513 and HD 210277. *MNRAS*, 423, 3074–3082 {11, 13}

Furusawa K, Udalski A, Sumi T, et al., 2013, MOA–2010–BLG–328L b: a sub-Neptune orbiting a late M dwarf? *ApJ*, 779, 91 {49}

Gai AD, Knuth KH, 2018, Bayesian model testing of ellipsoidal variations on stars due to hot Jupiters. *ApJ*, 853, 49 {28}

Gaidos E, 2018, What and whence Oumuamua: a contact binary from the debris of a young planetary system? *MNRAS*, 477, 5692–5699 {54}

Gaidos E, Mann AW, Rizzuto A, et al., 2017a, Zodiacal exoplanets in time (ZEIT). II. A super-Earth orbiting a young K dwarf in the Pleiades neighbourhood. *MNRAS*, 464, 850–862 {38}

Gaidos E, Williams J, Kraus A, 2017b, Origin of interstellar object A/2017 U1 in a nearby young stellar association? *RNAAS*, 1, 13 {54}

Gajdoš P, Parimucha Š, Hambálek Ľ, et al., 2017, Transit-timing variations in the system Kepler–410A b. *MNRAS*, 469, 2907–2912 {34}

Galicher R, Marois C, Macintosh B, et al., 2011, M-band imaging of the HR 8799 planetary system using an innovative LOCI-based background subtraction. *ApJ*, 739, L41 {53}

Galicher R, Marois C, Zuckerman B, et al., 2013, Fomalhaut b: independent analysis of the HST public archive data. *ApJ*, 769, 42 {51}

Galicher R, Rameau J, Bonnefoy M, et al., 2014, Near-infrared detection and characterisation of the exoplanet HD 95086 b with the Gemini Planet Imager. *A&A*, 565, L4 {52}

Galland F, Lagrange AM, Udry S, et al., 2005, Extrasolar planets and brown dwarfs around A-F type stars. II. A planet found with ELODIE around the F6V star HD 33564. *A&A*, 444, L21–L24 {7}

Gandolfi D, Barragán O, Hatzes AP, et al., 2017, The transiting multi-planet system HD 3167: a $5.7M_\oplus$ super-Earth and an $8.3M_\oplus$ mini-Neptune. *AJ*, 154, 123 {38}

Gandolfi D, Barragán O, Livingston JH, et al., 2018, TESS's first planet: a super-Earth transiting the naked-eye star π Men. *A&A*, 619, L10 {26}

Gandolfi D, Collier Cameron A, Endl M, et al., 2012, Doppler tomography of transiting exoplanets: a prograde, low-inclined orbit for the hot Jupiter CoRoT–11 b. *A&A*, 543, L5 {22}

Gandolfi D, Hébrard G, Alonso R, et al., 2010, Transiting exoplanets from the CoRoT space mission. XIV. CoRoT–11 b: a transiting massive hot-Jupiter in a prograde orbit around a rapidly rotating F-type star. *A&A*, 524, A55 {22}

Gandolfi D, Parviainen H, Deeg HJ, et al., 2015, Kepler–423 b: a half-Jupiter mass planet transiting a very old solar-like star. *A&A*, 576, A11 {34}

Gandolfi D, Parviainen H, Fridlund M, et al., 2013, Kepler–77 b: a very low albedo, Saturn-mass transiting planet around a metal-rich solar-like star. *A&A*, 557, A74 {31}

Gao P, Benneke B, 2018, Microphysics of KCl and ZnS clouds on GJ 1214 b. *ApJ*, 863, 165 {23}

Garai Z, 2018, Light-curve analysis of KOI–2700 b: the second extrasolar planet with a comet-like tail. *A&A*, 611, A63 {37}

Garai Z, Pribulla T, Hambálek Ľ, et al., 2017, Affordable echelle spectroscopy of the eccentric HAT–P–2, WASP–14, and XO–3 planetary systems with a sub-meter-class telescope. *Astron. Nach.*, 338, 35–48 {23, 43, 48}

Garai Z, Zhou G, Budaj J, et al., 2014, Search for circumplanetary material and orbital period variations of short-period Kepler exoplanet candidates. *Astron. Nach.*, 335, 1018–1036 {36}

Garcia Lopez RJ, Perez de Taoro MR, 1998, Beryllium abundances in parent stars of extrasolar planets: 16 Cyg A and B and 55 Cnc. *A&A*, 334, 599–605 {3, 16}

Garcia-Melendo E, McCullough PR, 2009, Photometric detection of a transit of HD 80606 b. *ApJ*, 698, 558–561 {17}

García Muñoz A, 2007, Physical and chemical aeronomy of HD 209458 b. *Planet. Space Sci.*, 55, 1426–1455 {20}

Garcia Munoz A, Isaak KG, 2015, Probing exoplanet clouds with optical phase curves. *Proc. Nat. Acad. Sci.*, 112, 13461–13466 {27}

Garcia-Sage K, Glocer A, Drake JJ, et al., 2017, On the magnetic protection of the atmosphere of Proxima Cen b. *ApJ*, 844, L13 {2}

Garhart E, Deming D, Mandell A, et al., 2018, Spitzer secondary eclipses of Qatar–1 b. *A&A*, 610, A55 {39}

Garraffo C, Drake JJ, Cohen O, 2016, The space weather of Proxima Cen b. *ApJ*, 833, L4 {2}

Garraffo C, Drake JJ, Cohen O, et al., 2017, The threatening magnetic and plasma environment of the TRAPPIST–1 planets. *ApJ*, 843, L33 {40}

Garufi A, Quanz SP, Schmid HM, et al., 2016, The SPHERE view of the planet-forming disk around HD 100546. *A&A*, 588, A8 {53}

Gatewood G, Han I, Black DC, 2001, A combined Hipparcos and multichannel astrometric photometer study of the proposed planetary system of ρ CrB. *ApJ*, 548, L61–L63 {3}

Gauchet L, Lacour S, Lagrange AM, et al., 2016, Sparse aperture masking at the VLT. II. Detection limits for the eight debris disks stars β Pic, AU Mic, 49 Cet, η Tel, Fomalhaut, g Lup, HD 181327 and HR 8799. *A&A*, 595, A31 {51, 52, 53}

Gaudi BS, Bennett DP, Udalski A, et al., 2008, Discovery of a Jupiter/Saturn analogue with gravitational microlensing. *Science*, 319, 927–930 {50}

Gaudi BS, Stassun KG, Collins KA, et al., 2017, A giant planet undergoing extreme-ultraviolet irradiation by its hot massive-star host. *Nature*, 546, 514–518 {27}

Gaulme P, Deheuvels S, Weiss WW, et al., 2010a, HD 46375: seismic and spectropolarimetric analysis of a young Sun hosting a Saturn-like planet. *A&A*, 524, A47 {8}

Gaulme P, Vannier M, Guillot T, et al., 2010b, Possible detection of phase changes from the non-transiting planet HD 46375 b by CoRoT. *A&A*, 518, L153 {8}

Gautier TN, Charbonneau D, Rowe JF, et al., 2012, Kepler–20: a Sun-like star with three sub-Neptune exoplanets and two Earth-size candidates. *ApJ*, 749, 15 {28}

Gauza B, Béjar VJS, Pérez-Garrido A, et al., 2015, Discovery of a young planetary mass companion to the nearby M dwarf VHS J125601.92–125723.9. *ApJ*, 804, 96 {54}

Gayon J, Marzari F, Scholl H, 2008, Stable chaos in the 55 Cnc exoplanetary system? *MNRAS*, 389, L1–L3 {16}

Ge J, van Eyken J, Mahadevan S, et al., 2006, The first extrasolar planet discovered with a new-generation high-throughput Doppler instrument. *ApJ*, 648, 683–695 {10}

Gelino DM, Kane SR, 2014, Phase curves of the Kepler–11 multi-planet system. *ApJ*, 787, 105 {28}

Georgakarakos N, Eggl S, 2015, Analytic orbit propagation for transiting circumbinary planets. *ApJ*, 802, 94 {28, 29, 31, 34}

Gerard B, Lawler S, Marois C, et al., 2016, Searching for the HR 8799 debris disk with HST–STIS. *ApJ*, 823, 149 {53}

Gerlach E, Haghighipour N, 2012, Can GJ 876 host four planets in resonance? *Cel. Mech. Dyn. Astron.*, 113, 35–47 {5}

Geroyannis VS, 2015, Gravitational quantisation of exoplanet orbits in HD 40307, μ Ara, Kepler–26, Kepler–62, and Kepler–275: comparing predicted orbits [unpublished]. *ArXiv e-prints* {1, 8, 29, 30, 33}

Gettel S, Charbonneau D, Dressing CD, et al., 2016, The Kepler–454 system: a small, not-rocky inner planet, a Jovian world, and a distant companion. *ApJ*, 816, 95 {35}

Gettel S, Wolszczan A, Niedzielski A, et al., 2012a, Planets around the K-giants BD+20 274 and HD 219415. *ApJ*, 756, 53 {4, 13}

—, 2012b, Substellar-mass companions to the K-giants HD 240237, BD+48 738, and HD 96127. *ApJ*, 745, 28 {4, 9, 13}

Ghezzi L, Cunha K, Smith VV, et al., 2009, Measurements of the isotopic ratio ^{6}Li/^{7}Li in stars with planets. *ApJ*, 698, 451–460 {9, 11, 13}

Gibson NP, Aigrain S, Barstow JK, et al., 2013a, A Gemini ground-based transmission spectrum of WASP–29 b: a featureless spectrum from 515–720 nm. *MNRAS*, 428, 3680–3692 {44}

—, 2013b, The optical transmission spectrum of the hot Jupiter HAT–P–32 b: clouds explain the absence of broad spectral features? *MNRAS*, 436, 2974–2988 {25}

Gibson NP, Aigrain S, Pollacco DL, et al., 2010a, Ground-based detection of thermal emission from the exoplanet WASP–19 b. *MNRAS*, 404, L114–L118 {44}

Gibson NP, Aigrain S, Pont F, et al., 2012a, Probing the haze in the atmosphere of HD 189733 b with HST–WFC3 transmission spectroscopy. *MNRAS*, 422, 753–760 {18}

Gibson NP, Aigrain S, Roberts S, et al., 2012b, A Gaussian process framework for modelling instrumental systematics: application to transmission spectroscopy. *MNRAS*, 419, 2683–2694 {18}

Gibson NP, Nikolov N, Sing DK, et al., 2017, VLT–FORS2 comparative transmission spectroscopy. II. Confirmation of a cloud deck and Rayleigh scattering in WASP–31 b, but no potassium? *MNRAS*, 467, 4591–4605 {44}

Gibson NP, Pollacco D, Simpson EK, et al., 2008, Updated parameters for the transiting exoplanet WASP–3 b using RISE, a new fast camera for the Liverpool Telescope. *A&A*, 492, 603–607 {41}

—, 2009, A transit timing analysis of nine RISE light curves of the exoplanet system TrES–3. *ApJ*, 700, 1078–1085 {41}

Gibson NP, Pollacco DL, Barros S, et al., 2010b, A transit timing analysis of seven RISE light curves of the exoplanet system HAT–P–3. *MNRAS*, 401, 1917–1923 {24}

Gibson NP, Pont F, Aigrain S, 2011, A new look at NICMOS transmission spectroscopy of HD 189733, GJ 436 and XO–1: no conclusive evidence for molecular features. *MNRAS*, 411, 2199–2213 {16, 18, 47}

Gibson S, 2015, *Photometric detections of secondary and primary transits of extrasolar planet CoRoT–1 b*. Ph.D. thesis, Texas A&M University {21}

Giguere MJ, Fischer DA, Howard AW, et al., 2012, A high-eccentricity component in the double-planet system around HD 163607 and a planet around HD 164509. *ApJ*, 744, 4 {11}

Giguere MJ, Fischer DA, Payne MJ, et al., 2015, Newly discovered planets orbiting HD 5319, HD 11506, HD 75784 and HD 10442 from the N2K Consortium. *ApJ*, 799, 89 {6, 7, 9}

Giguere MJ, Fischer DA, Zhang CXY, et al., 2016, A combined spectroscopic and photometric stellar activity study of ϵ Eri. *ApJ*, 824, 150 {3}

Giles D, Walkowicz L, 2018, Systematic serendipity: a test of unsupervised machine learning as a method for anomaly detection. *MNRAS* {36}

Giles HAC, Bayliss D, Espinoza N, et al., 2018, K2–140 b: an eccentric 6.57-d transiting hot Jupiter in Virgo. *MNRAS*, 475, 1809–1818 {38}

Gilliland RL, Marcy GW, Rowe JF, et al., 2013, Kepler–68: three planets, one with a density between that of Earth and ice giants. *ApJ*, 766, 40 {31}

Gilliland RL, McCullough PR, Nelan EP, et al., 2011, Asteroseismology of the transiting exoplanet host HD 17156 with HST–FGS. *ApJ*, 726, 2 {17}

Gillon M, Anderson DR, Collier Cameron A, et al., 2013, WASP–64 b and WASP–72 b: two new transiting highly-irradiated giant planets. *A&A*, 552, A82 {46}

—, 2014a, WASP–103 b: a new planet at the edge of tidal disruption. *A&A*, 562, L3

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{47}
Gillon M, Anderson DR, Triaud AHMJ, et al., 2009a, Discovery and characterisation of WASP–6 b, an inflated sub-Jupiter mass planet transiting a solar-type star. *A&A*, 501, 785–792 {42}
Gillon M, Bonfils X, Demory BO, et al., 2011a, An educated search for transiting habitable planets: targetting M dwarfs with known transiting planets. *A&A*, 525, A32 {23}
Gillon M, Deming D, Demory BO, et al., 2010a, The Spitzer search for the transits of HARPS low-mass planets. I. No transit for the super-Earth HD 40307 b. *A&A*, 518, A25 {8}
Gillon M, Demory B, Triaud AHMJ, et al., 2009b, VLT transit and occultation photometry for the bloated planet CoRoT–1 b. *A&A*, 506, 359–367 {21}
Gillon M, Demory BO, Barman T, et al., 2007a, Accurate Spitzer infrared radius measurement for the hot Neptune GJ 436 b. *A&A*, 471, L51–L54 {16}
Gillon M, Demory BO, Benneke B, et al., 2012a, Improved precision on the radius of the nearby super-Earth 55 Cnc e. *A&A*, 539, A28 {16}
Gillon M, Demory BO, Madhusudhan N, et al., 2014b, Search for a habitable terrestrial planet transiting the nearby red dwarf GJ 1214. *A&A*, 563, A21 {23}
Gillon M, Demory BO, Van Grootel V, et al., 2017a, Two massive rocky planets transiting a K-dwarf 6.5 pc away. *Nature Astronomy*, 1, 0056 {21}
Gillon M, Doyle AP, Lendl M, et al., 2011b, WASP–50 b: a hot Jupiter transiting a moderately active solar-type star. *A&A*, 533, A88 {45}
Gillon M, Hatzes A, Csizmadia S, et al., 2010b, Transiting exoplanets from the CoRoT space mission. XII. CoRoT–12 b: a short-period low-density planet transiting a solar analogue star. *A&A*, 520, A97 {22}
Gillon M, Jehin E, Lederer SM, et al., 2016, Temperate Earth-sized planets transiting a nearby ultracool dwarf star. *Nature*, 533, 221–224 {40}
Gillon M, Lanotte AA, Barman T, et al., 2010c, The thermal emission of the young and massive planet CoRoT–2 b at 4.5 and 8 μm. *A&A*, 511(26), 3–7 {21}
Gillon M, Pont F, Demory BO, et al., 2007b, Detection of transits of the nearby hot Neptune GJ 436 b. *A&A*, 472, L13–L16 {16}
Gillon M, Pont F, Moutou C, et al., 2006, High accuracy transit photometry of the planet OGLE–TR–113 b with a new deconvolution-based method. *A&A*, 459, 249–255 {39}
—, 2007c, The transiting planet OGLE–TR–132 b revisited with new spectroscopy and deconvolution photometry. *A&A*, 466, 743–748 {39}
Gillon M, Smalley B, Hebb L, et al., 2009c, Improved parameters for the transiting hot Jupiters WASP–4 b and WASP–5 b. *A&A*, 496, 259–267 {42}
Gillon M, Triaud AHMJ, Demory BO, et al., 2017b, Seven temperate terrestrial planets around the nearby ultracool dwarf star TRAPPIST–1. *Nature*, 542, 456–460 {40}
Gillon M, Triaud AHMJ, Fortney JJ, et al., 2012b, The TRAPPIST survey of southern transiting planets. I. Thirty eclipses of the ultra-short period planet WASP–43 b. *A&A*, 542, A4 {45}
Gillon M, Triaud AHMJ, Mayor M, et al., 2008, Improved parameters for the transiting planet HD 17156 b: a high-density giant planet with a very eccentric orbit. *A&A*, 485, 871–875 {17}
Ginski C, Mugrauer M, Seeliger M, et al., 2012, A lucky imaging multiplicity study of exoplanet host stars. *MNRAS*, 421, 2498–2509 {4}
—, 2013, The multiplicity status of three exoplanet host stars. *A&A*, 559, A71 {8, 24, 25}
—, 2016, A lucky imaging multiplicity study of exoplanet host stars. II. *MNRAS*, 457, 2173–2191 {6, 12, 13, 28, 31, 46}
Ginski C, Schmidt TOB, Mugrauer M, et al., 2014, Astrometric follow-up observations of directly imaged sub-stellar companions to young stars and brown dwarfs. *MNRAS*, 444, 2280–2302 {52, 53, 54}
Giuppone CA, Correia ACM, 2017, Lidov–Kozai stability regions in the α Cen system. *A&A*, 605, A124 {2}
Giuppone CA, Leiva AM, Correa-Otto J, et al., 2011, Secular dynamics of planetesimals in tight binary systems: application to γ Cep. *A&A*, 530, A103 {3}
Giuppone CA, Morais MHM, Boué G, et al., 2012, Dynamical analysis and constraints for the HD 196885 system. *A&A*, 541, A151 {12}
Gizis JE, Jao WC, Subasavage JP, et al., 2007, The trigonometric parallax of the brown dwarf planetary system 2M J1207. *ApJ*, 669, L45–L48 {54}
Gizon L, Ballot J, Michel E, et al., 2013, Seismic constraints on rotation of Sun-like star and mass of exoplanet. *Proc. Nat. Acad. Sci.*, 110, 13267–13271 {8}
Gomez Gonzalez CA, Wertz O, Absil O, et al., 2017, VIP: Vortex Image Processing Package for High-contrast Direct Imaging. *AJ*, 154, 7 {53}
Gómez Maqueo Chew Y, Faedi F, Cargile P, et al., 2013a, The Homogeneous Study of Transiting Systems (HoSTS). I. The pilot study of WASP–13. *ApJ*, 768, 79 {43}
Gómez Maqueo Chew Y, Faedi F, Pollacco D, et al., 2013b, Discovery of WASP–65 b and WASP–75 b: two hot Jupiters without highly inflated radii. *A&A*, 559, A36 {46}
Gong YX, Ji J, 2017, The scattering outcomes of Kepler circumbinary planets: planet mass ratio. *AJ*, 154, 179 {29, 34}
Gong YX, Zhou JL, 2012, The silicate and carbon-rich models of CoRoT–7 b, Kepler–9d and Kepler–10 b. *Res. Astron. Astrophys.*, 12, 678–692 {22, 27}
Gonzalez G, Laws C, 2000, Parent stars of extrasolar planets. V. HD 75289. *AJ*, 119, 390–396 {9}
Gonzalez G, Vanture AD, 1998, Parent stars of extrasolar planets. III. ρ^1 Cnc (55 Cnc) revisited. *A&A*, 339, L29–L32 {16}
Gonzalez G, Wallerstein G, Saar SH, 1999, Parent stars of extrasolar planets. IV. 14 Her, HD 187123, and HD 210277. *ApJ*, 511, L111–L114 {3, 12, 13}
González-Álvarez E, Affer L, Micela G, et al., 2017, The GAPS Programme with HARPS–N at TNG. XV. A substellar companion around a K giant star identified with quasi-simultaneous HARPS–N and GIANO measurements. *A&A*, 606, A51 {14}
Gostev NY, 2011, Light curve analysis for eclipsing systems with exoplanets. The systems Kepler–5 b, Kepler–6 b, and Kepler–7 b. *Astronomy Reports*, 55, 649–659 {27}
Götberg Y, Davies MB, Mustill AJ, et al., 2016, Long-term stability of the HR 8799 planetary system without resonant lock. *A&A*, 592, A147 {53}
Goto M, van der Plas G, van den Ancker M, et al., 2012, Warm gas at 50 au in the disk around Herbig Be star HD 100546. *A&A*, 539, A81 {52}
Gould A, Dong S, Bennett DP, et al., 2010, A second method to photometrically align multi-site microlensing light curves: source colour in planetary event MOA–2007–BLG–192. *ApJ*, 710, 1800–1805 {49}
Gould A, Udalski A, An D, et al., 2006, Microlens OGLE–2005–BLG–169 implies that cool Neptune-like planets are common. *ApJ*, 644, L37–L40 {49}
Gould A, Udalski A, Shin IG, et al., 2014, A terrestrial planet in a 1 au orbit around one member of a ∼15 au binary. *Science*, 345, 46–49 {50}
Goździewski K, 2002, Stability of the 47 UMa planetary system. *A&A*, 393, 997–1013 {4}
—, 2003a, A dynamical analysis of the HD 37124 planetary system. *A&A*, 398, 315–325 {7}
—, 2003b, Stability of the HD 12661 planetary system. *A&A*, 398, 1151–1161 {7}
Goździewski K, Bois E, Maciejewski AJ, 2002, Global dynamics of the GJ 876 planetary system. *MNRAS*, 332, 839–855 {5}
Goździewski K, Breiter S, Borczyk W, 2008a, The long-term stability of extrasolar system HD 37124: numerical study of resonance effects. *MNRAS*, 383, 989–999 {7}
Goździewski K, Konacki M, 2004, Dynamical properties of the multi-planet system around HD 169830. *ApJ*, 610, 1093–1106 {11}
—, 2006, Trojan pairs in the HD 128311 and HD 82943 planetary systems? *ApJ*, 647, 573–586 {9, 10}
Goździewski K, Konacki M, Maciejewski AJ, 2003, Where is the second planet in the HD 160691 planetary system? *ApJ*, 594, 1019–1032 {1}
—, 2005, Orbital solutions to the HD 160691 (μ Ara) Doppler signal. *ApJ*, 622, 1136–1148 {1}
—, 2006, Orbital configurations and dynamical stability of multi-planet systems around Sun-like stars HD 202206, 14 Her, HD 37124, and HD 108874. *ApJ*, 645, 688–703 {3, 7, 10, 12}
Goździewski K, Maciejewski AJ, 2001, Dynamical analysis of the orbital parameters of the HD 82943 planetary system. *ApJ*, 563, L81–L85 {9}
—, 2003, The Janus head of the HD 12661 planetary system. *ApJ*, 586, L153–L156 {7}
Goździewski K, Maciejewski AJ, Migaszewski C, 2007, On the extrasolar multi-planet system around HD 160691. *ApJ*, 657, 546–558 {1}
Goździewski K, Migaszewski C, 2006, About putative Neptune-like extrasolar planetary candidates. *A&A*, 449, 1219–1232 {10, 11, 12, 13}
—, 2009, Is the HR 8799 extrasolar system destined for planetary scattering? *MNRAS*, 397, L16–L20 {53}
—, 2014, Multiple mean motion resonances in the HR 8799 planetary system. *MNRAS*, 440, 3140–3171 {53}
—, 2018, The orbital architecture and debris disks of the HR 8799 planetary system. *ApJS*, 238, 6 {53}
Goździewski K, Migaszewski C, Konacki M, 2008b, A dynamical analysis of the 14 Her planetary system. *MNRAS*, 385, 957–966 {3}
Goździewski K, Migaszewski C, Panichi F, et al., 2016, The Laplace resonance in the Kepler–60 planetary system. *MNRAS*, 455, L104–L108 {30}
Goździewski K, Słonina M, Migaszewski C, et al., 2013, Testing a hypothesis of the ν Oct planet system. *MNRAS*, 430, 533–545 {3}
Grady CA, Sitko ML, Bjorkman KS, et al., 1997, The star-grazing extrasolar comets in the HD 100546 system. *ApJ*, 483, 449–456 {52}
Grady CA, Woodgate B, Heap SR, et al., 2005, Resolving the inner cavity of the HD 100546 disk: a candidate young planetary system? *ApJ*, 620, 470–480 {52}
Gräfe C, Wolf S, Roccatagliata V, et al., 2011, Mid-infrared observations of the transition disks around DH Tau, DM Tau, and GM Aur. *A&A*, 533, A89 {52}
Granados Contreras AP, Boley AC, 2018, The dynamics of tightly-packed planetary systems in the presence of an outer planet: case studies using Kepler–11 and Kepler–90. *AJ*, 155, 139 {28, 31}
Granata V, Nascimbeni V, Piotto G, et al., 2014, TASTE IV: refining ephemeris and orbital parameters for HAT–P–20 b and WASP–1 b. *Astron. Nach.*, 335, 797 {25, 41}
Gratia P, Fabrycky D, 2017, Outer-planet scattering can gently tilt an inner planetary system. *MNRAS*, 464, 1709–1717 {30}
Grauzhanina AO, Valyavin GG, Gadelshin DR, et al., 2017, Spectroscopic observations of the exoplanet WASP–32 b transit. *Astrophysical Bulletin*, 72, 67–72 {44}
Gray DF, 1997, Absence of a planetary signature in the spectra of the star 51 Peg. *Nature*, 385, 795–796 {3}
—, 1998, A planetary companion for 51 Peg implied by absence of pulsations in the stellar spectra. *Nature*, 391, 153–154 {3}
Gray DF, Hatzes AP, 1997, Non-radial oscillation in the solar-temperature star 51 Peg. *ApJ*, 490, 412–424 {3}
Greaves JS, 2006, A common proper motion companion to the exoplanet host 51 Peg. *J. Double Star Obs.*, 2, 4 {3}
Greaves JS, Holland WS, Moriarty-Schieven G, et al., 1998, A dust ring around ϵ Eri: analogue to the young solar system. *ApJ*, 506, L133–L137 {3}
Greaves JS, Holland WS, Wyatt MC, et al., 2005, Structure in the ϵ Eri debris disk. *ApJ*, 619, L187–L190 {3}
Greaves JS, Wyatt MC, Holland WS, et al., 2004, The debris disk around τ Cet: a massive analogue to the Kuiper belt. *MNRAS*, 351, L54–L58 {3}
Greenbaum AZ, Pueyo L, Ruffio JB, et al., 2018, GPI spectra of HR 8799 c, d, and e from 1.5–2.4 μm with KLIP forward modeling. *AJ*, 155, 226 {53}
Greenberg R, Van Laerhoven C, 2011, Tidal evolution of a secularly interacting planetary system. *ApJ*, 733, 8 {22}
Greenberg R, van Laerhoven C, 2012, Aligned major axes in a planetary system without tidal evolution: the 61 Vir example. *MNRAS*, 419, 429–435 {4}
Gregory PC, 2005, A Bayesian analysis of extrasolar planet data for HD 73526. *ApJ*, 631, 1198–1214 {9}
—, 2007a, A Bayesian Kepler periodogram detects a second planet in HD 208487. *MNRAS*, 374, 1321–1333 {13}
—, 2007b, A Bayesian periodogram finds evidence for three planets in HD 11964.

MNRAS, 381, 1607–1616 {7}

—, 2011, Bayesian re-analysis of the GJ 581 exoplanet system. *MNRAS*, 415, 2523–2545 {5}

Gregory PC, Fischer DA, 2010, A Bayesian periodogram finds evidence for three planets in 47 UMa. *MNRAS*, 403, 731–747 {4}

Grießmeier JM, Stadelmann A, Penz T, et al., 2004, The effect of tidal locking on the magnetospheric and atmospheric evolution of Hot Jupiters. *A&A*, 425, 753–762 {20, 39}

Grillmair CJ, Burrows A, Charbonneau D, et al., 2008, Strong water absorption in the day-side emission spectrum of the planet HD 189733 b. *Nature*, 456, 767–769 {18}

Grillmair CJ, Charbonneau D, Burrows A, et al., 2007, A Spitzer spectrum of the exoplanet HD 189733 b. *ApJ*, 658, L115–L118 {18}

Grimm SL, Demory BO, Gillon M, et al., 2018, The nature of the TRAPPIST–1 exoplanets. *A&A*, 613, A68 {40}

Grunblatt SK, Howard AW, Haywood RD, 2015, Determining the mass of Kepler–78 b with nonparametric Gaussian process estimation. *ApJ*, 808, 127 {31}

Grunblatt SK, Huber D, Gaidos E, et al., 2017, Seeing double with K2: testing re-inflation with two remarkably similar planets around red giant branch stars. *AJ*, 154, 254 {38}

Grunblatt SK, Huber D, Gaidos EJ, et al., 2016, K2–97 b: a (re-?)inflated planet orbiting a red giant star. *AJ*, 152, 185 {38}

Grziwa S, Gandolfi D, Csizmadia S, et al., 2016, K2–31 b, a grazing transiting hot Jupiter on a 1.26-d orbit around a bright G7V star. *AJ*, 152, 132 {37}

Guedes JM, Rivera EJ, Davis E, et al., 2008, Formation and detectability of terrestrial planets around α Cen B. *ApJ*, 679, 1582–1587 {2}

Guenther DB, Demarque P, 2000, α Cen AB. *ApJ*, 531, 503–520 {2}

Guenther EW, Barragán O, Dai F, et al., 2017, K2–106, a system containing a metal-rich planet and a planet of lower density. *A&A*, 608, A93 {38}

Guenther EW, Cabrera J, Erikson A, et al., 2011, Constraints on the exosphere of CoRoT–7 b. *A&A*, 525, A24 {22}

Guenther EW, Díaz RF, Gazzano JC, et al., 2012, Transiting exoplanets from the CoRoT space mission. XXI. CoRoT–19 b: a low density planet orbiting an old inactive F9V-star. *A&A*, 537, A136 {22}

Guenther EW, Hartmann M, Esposito M, et al., 2009, A substellar component orbiting the F-star 30 Ari B. *A&A*, 507, 1659–1665 {16}

Guenther EW, Neuhäuser R, Wuchterl G, et al., 2005, The low-mass companion of GQ Lup. *Astron. Nach.*, 326, 958–963 {52}

Guillot T, Havel M, 2011, An analysis of CoRoT–2: a young spotted star and its inflated giant planet. *A&A*, 527, A20 {21}

Guillot T, Showman AP, 2002, Evolution of 51 Peg-like planets. *A&A*, 385, 156–165 {3}

Guinan EF, 2013, The case of the tail wagging the dog: HD 189733, evidence of hot Jupiter exoplanets spinning-up their host stars. *Journal of the American Association of Variable Star Observers (JAAVSO)*, 41, 153 {18}

Guinan EF, Engle SG, Durbin A, 2016, Living with a red dwarf: rotation and X-ray and ultraviolet properties of the halo population Kapteyn's Star. *ApJ*, 821, 81 {4}

Gulbis AAS, Bus SJ, Elliot JL, et al., 2011, First results from the MIT Optical Rapid Imaging System (IRTF–MORIS): a stellar occultation by Pluto and a transit by exoplanet XO–2 b. *PASP*, 123, 461–469 {48}

Günther MN, Queloz D, Gillen E, et al., 2018, Unmasking the hidden NGTS–3A b: a hot Jupiter in an unresolved binary system. *MNRAS*, 478, 4720–4737 {39}

Guo JH, 2010, The effect of mass loss on the tidal evolution of extrasolar planet. *ApJ*, 712, 1107–1115 {20}

—, 2011, Escaping particle fluxes in the atmospheres of close-in exoplanets. I. Model of hydrogen. *ApJ*, 733, 98 {18, 20}

Guo JH, Ben-Jaffel L, 2016, The influence of the extreme ultraviolet spectral energy distribution on the structure and composition of the upper atmosphere of exoplanets. *ApJ*, 818, 107 {17, 19, 21, 28}

Gurdemir L, Redfield S, Cuntz M, 2012, Planet-induced emission enhancements in HD 179949: results from McDonald observations. *Publ. Astron. Soc. Australia*, 29, 141–149 {12}

Hadden S, Lithwick Y, 2014, Densities and eccentricities of 139 Kepler planets from transit time variations. *ApJ*, 787, 80 {29, 30, 32, 34}

Hadjidemetriou JD, Psychoyos D, 2003, Dynamics of extrasolar planetary systems: 2:1 resonant motion. *Galaxies and Chaos*, volume 626 of *Lecture Notes in Physics, Springer–Verlag*, 412–432 {9}

Haghighipour N, 2004, On the dynamical stability of γ Cep, an S-type binary planetary system. *The Search for Other Worlds*, volume 713 of *Amer. Inst. Phys. Conf. Ser.*, 269–272 {2}

—, 2006, Dynamical stability and habitability of the γ Cep binary-planetary system. *ApJ*, 644, 543–550 {2}

Haghighipour N, Butler RP, Rivera EJ, et al., 2012, The Lick–Carnegie survey: a new two-planet system around the star HD 207832. *ApJ*, 756, 91 {13}

Haghighipour N, Vogt SS, Butler RP, et al., 2010, The Lick–Carnegie exoplanet survey: a Saturn-mass planet in the habitable zone of the nearby M4V star HIP 57050. *ApJ*, 715, 271–276 {6}

Hainaut OR, Meech KJ, Micheli M, et al., 2018, Rendezvous with Oumuamua. *The Messenger*, 173, 13–16 {54}

Hallinan G, Sirothia SK, Antonova A, et al., 2013, Looking for a pulse: a search for rotationally modulated radio emission from the hot Jupiter, τ Boo b. *ApJ*, 762, 34 {2}

Hamers AS, Portegies Zwart SF, 2016, Secular dynamics of hierarchical multiple systems composed of nested binaries, with an arbitrary number of bodies and arbitrary hierarchical structure: first applications to multi-planet and multi-star systems. *MNRAS*, 459, 2827–2874 {16}

—, 2018, Catching a planet: a tidal capture origin for the exomoon candidate Kepler–1625 b I. *ApJ*, 869, L27 {36}

Hammond M, Pierrehumbert RT, 2017, Linking the climate and thermal phase curve of 55 Cnc e. *ApJ*, 849, 152 {16}

Han C, Bennett DP, Udalski A, et al., 2016a, A new nonplanetary interpretation of the microlensing event OGLE–2013–BLG–723. *ApJ*, 825, 8 {50}

Han C, Bond IA, Gould A, et al., 2018a, MOA–2016–BLG–319L b: microlensing planet subject to rare minor-image perturbation degeneracy in determining planet parameters. *AJ*, 156, 226 {49}

Han C, Hirao Y, Udalski A, et al., 2018b, OGLE–2017–BLG–0482L b: a microlensing super-earth orbiting a low-mass host star. *AJ*, 155, 211 {50}

Han C, Jung YK, Udalski A, et al., 2013a, Microlensing discovery of a tight, low-mass-ratio planetary-mass object around an old field brown dwarf. *ApJ*, 778, 38 {50}

Han C, Udalski A, Choi JY, et al., 2013b, The second multiple-planet system discovered by microlensing: OGLE–2012–BLG–26L b, c: a pair of Jovian planets beyond the snow line. *ApJ*, 762, L28 {50}

Han C, Udalski A, Gould A, et al., 2016b, OGLE–2015–BLG–051/KMT–2015–BLG–048L b: a giant planet orbiting a low-mass bulge star discovered by high-cadence microlensing surveys. *AJ*, 152, 95 {50}

—, 2017a, OGLE–2016–BLG–0263L b: microlensing detection of a very low-mass binary companion through a repeating event channel. *AJ*, 154, 133 {50}

—, 2017b, OGLE–2016–BLG–0613LAB b: a microlensing planet in a binary system. *AJ*, 154, 223 {50}

Han I, Lee BC, Kim KM, et al., 2010, Detection of a planetary companion around the giant star γ^1 Leo. *A&A*, 509, A24 {3}

Hands TO, Alexander RD, Dehnen W, 2014, Understanding the assembly of Kepler's compact planetary systems. *MNRAS*, 445, 749–760 {28, 29}

Hansen BMS, Zink J, 2015, On the potentially dramatic history of the super-Earth 55 Cnc e. *MNRAS*, 450, 4505–4520 {16}

Hara NC, Boué G, Laskar J, et al., 2017, Radial velocity data analysis with compressed sensing techniques. *MNRAS*, 464, 1220–1246 {6, 9, 16}

Harakawa H, Sato B, Fischer DA, et al., 2010, Detection of a low-eccentricity and super-massive planet to the subgiant HD 38801. *ApJ*, 715, 550–553 {8}

Harakawa H, Sato B, Omiya M, et al., 2015, Five new exoplanets orbiting three metal-rich, massive stars: two-planet systems including long-period planets and an eccentric planet. *ApJ*, 806, 5 {6, 8}

Hardy LK, Butterley T, Dhillon VS, et al., 2015, pt5m: a 0.5-m robotic telescope on La Palma. *MNRAS*, 454, 4316–4325 {44}

Hardy RA, Harrington J, Hardin MR, et al., 2017, Secondary eclipses of HAT–P–13 b. *ApJ*, 836, 143 {25}

Harp GR, Richards J, Shostak S, et al., 2016, Radio SETI observations of the anomalous star KIC–8462852. *ApJ*, 825, 155 {36}

Harpsøe KBW, Hardis S, Hinse TC, et al., 2013, The transiting system GJ 1214: high-precision defocused transit observations and a search for evidence of transit timing variation. *A&A*, 549, A10 {23}

Harrington J, Hansen BM, Luszcz SH, et al., 2006, The phase-dependent infrared brightness of the extrasolar planet υ And b. *Science*, 314, 623–626 {1}

Harrington J, Luszcz S, Seager S, et al., 2007, The hottest planet. *Nature*, 447, 691–693 {17}

Hartman JD, Bakos GÁ, Béky B, et al., 2012, HAT–P–39 b – HAT–P–41 b: three highly inflated transiting hot Jupiters. *AJ*, 144, 139 {26}

Hartman JD, Bakos GÁ, Bhatti W, et al., 2016, HAT–P–65 b and HAT–P–66 b: two transiting inflated hot Jupiters and observational evidence for the re-inflation of close-in giant planets. *AJ*, 152, 182 {26}

Hartman JD, Bakos GÁ, Buchhave LA, et al., 2015a, HAT–P–57 b: a short-period giant planet transiting a bright rapidly rotating A8V star confirmed via Doppler tomography. *AJ*, 150, 197 {26}

Hartman JD, Bakos GÁ, Kipping DM, et al., 2011a, HAT–P–26 b: a low-density Neptune-mass planet transiting a K star. *ApJ*, 728, 138–141 {25}

Hartman JD, Bakos GÁ, Sato B, et al., 2011b, HAT–P–18 b and HAT–P–19 b: two low-density Saturn-mass planets transiting metal-rich K stars. *ApJ*, 726, 52–56 {25}

Hartman JD, Bakos GÁ, Torres G, et al., 2009, HAT–P–12 b: a low-density sub-Saturn mass planet transiting a metal-poor K dwarf. *ApJ*, 706, 785–796 {24}

—, 2011c, HAT–P–32 b and HAT–P–33 b: two highly-inflated hot Jupiters transiting high-jitter stars. *ApJ*, 742, 59 {25}

—, 2014, HAT–P–44 b, HAT–P–45 b, and HAT–P–46 b: three transiting hot Jupiters in possible multi-planet systems. *AJ*, 147, 128 {26}

Hartman JD, Bayliss D, Brahm R, et al., 2015b, HATS–6 b: a warm Saturn transiting an early M dwarf star, and a set of empirical relations for characterising K and M dwarf planet hosts. *AJ*, 149, 166 {26}

Hartman JD, Bhatti W, Bakos GÁ, et al., 2015c, HAT–P–50 b, HAT–P–51 b, HAT–P–52 b, and HAT–P–53 b: three transiting hot Jupiters and a transiting hot Saturn from the HATNet Survey. *AJ*, 150, 168 {26}

Hartmann M, Guenther EW, Hatzes AP, 2010, A sub-stellar companion around the F7V star HD 8673. *ApJ*, 717, 348–356 {6}

Haswell CA, Fossati L, Ayres T, et al., 2012, Near-ultraviolet absorption, chromospheric activity, and star–planet interactions in the WASP–12 system. *ApJ*, 760, 79 {42}

Hatzes AP, 2013a, An investigation into the radial velocity variability of GJ 581: on the significance of GJ 581 g. *Astron. Nach.*, 334, 616 {5}

—, 2013b, The radial velocity detection of Earth-mass planets in the presence of activity noise: the case of α Cen B b. *ApJ*, 770, 133 {2}

—, 2014, The detection of Earth-mass planets around active stars: the mass of Kepler–78 b. *A&A*, 568, A84 {31}

Hatzes AP, Cochran WD, 1993, Long-period radial velocity variations in three K giants. *ApJ*, 413, 339–348 {4, 8}

Hatzes AP, Cochran WD, Bakker EJ, 1998a, Further evidence for the planet around 51 Peg. *Nature*, 391, 154–155 {3}

—, 1998b, The lack of spectral variability in 51 Peg: confirmation of the planet hypothesis. *ApJ*, 508, 380–386 {3}

Hatzes AP, Cochran WD, Endl M, et al., 2003, A planetary companion to γ Cep A. *ApJ*, 599, 1383–1394 {2}

—, 2015, Long-lived, long-period radial velocity variations in Aldebaran: a planetary companion and stellar activity. *A&A*, 580, A31 {4}

Hatzes AP, Cochran WD, Johns-Krull CM, 1997, Testing the planet hypothesis: a search for variability in the spectral-line shapes of 51 Peg. *ApJ*, 478, 374–380 {3}
Hatzes AP, Cochran WD, McArthur B, et al., 2000, Evidence for a long-period planet orbiting ϵ Eri. *ApJ*, 544, L145–L148 {3}
Hatzes AP, Dvorak R, Wuchterl G, et al., 2010, An investigation into the radial velocity variations of CoRoT–7. *A&A*, 520, A93 {22}
Hatzes AP, Fridlund M, Nachmani G, et al., 2011, The mass of CoRoT–7 b. *ApJ*, 743, 75 {22}
Hatzes AP, Guenther EW, Endl M, et al., 2005, A giant planet around the massive giant star HD 13189. *A&A*, 437, 743–751 {7}
Hauser HM, Marcy GW, 1999, The orbit of 16 Cyg AB. *PASP*, 111, 321–334 {3}
Havel M, Guillot T, Valencia D, et al., 2011, The multiple planets transiting Kepler–9. I. Inferring stellar properties and planetary compositions. *A&A*, 531, A3 {27}
Hawker GA, Madhusudhan N, Cabot SHC, et al., 2018, Evidence for multiple molecular species in the hot Jupiter HD 209458 b. *ApJ*, 863, L11 {21}
Haworth TJ, Facchini S, Clarke CJ, et al., 2018, Where can a TRAPPIST–1 planetary system be produced? *MNRAS*, 475, 5460–5473 {40}
Hay KL, Collier-Cameron A, Doyle AP, et al., 2016, WASP–92 b, WASP–93 b and WASP–118 b: three new transiting close-in giant planets. *MNRAS*, 463, 3276–3289 {46, 47}
Hayek W, Sing D, Pont F, et al., 2012, Limb darkening laws for two exoplanet host stars derived from 3d stellar model atmospheres: comparison with 1d models and HST light curve observations. *A&A*, 539, A102 {18, 20}
Haynes K, Mandell AM, Madhusudhan N, et al., 2015, Spectroscopic evidence for a temperature inversion in the day-side atmosphere of hot Jupiter WASP–33 b. *ApJ*, 806, 146 {44}
Haywood RD, Collier Cameron A, Queloz D, et al., 2014a, Disentangling planetary orbits from stellar activity in radial-velocity surveys. *Int. J. Astrobiol.*, 13, 155–157 {22}
—, 2014b, Planets and stellar activity: hide and seek in the CoRoT–7 system. *MNRAS*, 443, 2517–2531 {22}
Haywood RD, Vanderburg A, Mortier A, et al., 2018, An accurate mass determination for Kepler–1655 b, a moderately irradiated world with a significant volatile envelope. *AJ*, 155, 203 {36}
Hebb L, Collier Cameron A, Loeillet B, et al., 2009, WASP–12 b: the hottest transiting extrasolar planet yet discovered. *ApJ*, 693, 1920–1928 {42}
Hebb L, Collier Cameron A, Triaud AHMJ, et al., 2010, WASP–19 b: the shortest period transiting exoplanet yet discovered. *ApJ*, 708, 224–231 {44}
Hébrard G, Almenara JM, Santerne A, et al., 2013a, KOI–200 b and KOI–889 b: two transiting planets characterised with Kepler, SOPHIE and HARPS–N. *A&A*, 554, A114 {31}
Hébrard G, Arnold L, Forveille T, et al., 2016, The SOPHIE search for northern extrasolar planets. X. Detection and characterisation of giant planets by the dozen. *A&A*, 588, A145 {7, 11, 13}
Hébrard G, Bonfils X, Ségransan D, et al., 2010a, The SOPHIE search for northern extrasolar planets. II. A multiple planet system around HD 9446. *A&A*, 513, A69 {6}
Hebrard G, Bonomo AS, Diaz RF, et al., 2018, SOPHIE velocimetry of Kepler transit candidates. XIX. The transiting temperate giant planet KOI–3680 b. *arXiv e-prints* {36}
Hébrard G, Bouchy F, Pont F, et al., 2008, Misaligned spin–orbit in the XO–3 planetary system? *A&A*, 488, 763–770 {48}
Hébrard G, Collier Cameron A, Brown DJA, et al., 2013b, WASP–52 b, WASP–58 b, WASP–59 b, and WASP–60 b: four new transiting close-in giant planets. *A&A*, 549, A134 {45, 46}
Hébrard G, Désert J, Díaz RF, et al., 2010b, Observation of the full 12-hour-long transit of the exoplanet HD 80606 b: warm-Spitzer photometry and SOPHIE spectroscopy. *A&A*, 516, A95 {17}
Hébrard G, Ehrenreich D, Bouchy F, et al., 2011a, The retrograde orbit of the HAT–P–6 b exoplanet. *A&A*, 527, L11 {24}
Hébrard G, Evans TM, Alonso R, et al., 2011b, Transiting exoplanets from the CoRoT space mission. XVIII. CoRoT–18 b: a massive hot Jupiter on a prograde, nearly aligned orbit. *A&A*, 533, A130 {22}
Hébrard G, Lecavelier des Etangs A, 2006, *A posteriori* detection of the planetary transit of HD 189733 b in the Hipparcos photometry. *A&A*, 445, 341–346 {18}
Hébrard G, Santerne A, Montagnier G, et al., 2014, Characterisation of the four new transiting planets KOI–188 b, KOI–195 b, KOI–192 b, and KOI–830 b. *A&A*, 572, A93 {34}
Hébrard G, Udry S, Lo Curto G, et al., 2010c, The HARPS search for southern extrasolar planets. XX. Planets around the active star BD–08 2823. *A&A*, 512, A46 {4}
Hein AM, Perakis N, Long KF, et al., 2017, Project Lyra: sending a spacecraft to Oumuamua, the interstellar asteroid. *ArXiv e-prints* {54}
Heinze AN, Hinz PM, Kenworthy M, et al., 2008, Deep L′- and M-band imaging for planets around Vega and ϵ Eri. *ApJ*, 688, 583–596 {3}
Hekker S, Reffert S, Quirrenbach A, 2006, Radial velocity variations in K giants: planets or pulsations? *Communications in Asteroseismology*, 147, 121–124 {13}
Helled R, Bodenheimer P, 2010, Metallicity of the massive protoplanets around HR 8799 if formed by gravitational instability. *Icarus*, 207, 503–508 {53}
Heller R, 2018, The nature of the giant exomoon candidate Kepler–1625 b I. *A&A*, 610, A39 {36}
Heller R, Barnes R, 2013, Exomoon habitability constrained by illumination and tidal heating. *Astrobiology*, 13, 18–46 {28}
Heller R, Hippke M, 2017, Deceleration of high-velocity interstellar photon sails into bound orbits at α Cen. *ApJ*, 835, L32 {2}
Hellier C, Anderson DR, Bouchy F, et al., 2019, New transiting hot Jupiters discovered by WASP–South, Euler/CORALIE, and TRAPPIST–South. *MNRAS*, 482, 1379–1391 {47}
Hellier C, Anderson DR, Cameron AC, et al., 2017, WASP-South transiting exoplanets: WASP–130 b, WASP–131 b, WASP–132 b, WASP–139 b, WASP–140 b, WASP–141 b and WASP–142 b. *MNRAS*, 465, 3693–3707 {47}
Hellier C, Anderson DR, Collier Cameron A, et al., 2009a, An orbital period of 0.94 days for the hot-Jupiter planet WASP–18 b. *Nature*, 460, 1098–1100 {43}
—, 2010, WASP–29 b: a Saturn-sized transiting exoplanet. *ApJ*, 723, L60–L63 {44}
—, 2011a, On the orbit of the short-period exoplanet WASP–19 b. *ApJ*, 730, L31 {44}
—, 2011b, WASP–43 b: the closest-orbiting hot Jupiter. *A&A*, 535, L7 {45}
—, 2012, Seven transiting hot Jupiters from WASP–South, Euler and TRAPPIST. *MNRAS*, 426, 739–750 {45, 46}
—, 2014, Transiting hot Jupiters from WASP–South, Euler and TRAPPIST: WASP–95 b to WASP–101 b. *MNRAS*, 440, 1982–1992 {46, 47}
—, 2015, Three WASP–South transiting exoplanets: WASP–74 b, WASP–83 b, and WASP–89 b. *AJ*, 150, 18 {46}
Hellier C, Anderson DR, Gillon M, et al., 2009b, WASP–7: a bright transiting-exoplanet system in the southern hemisphere. *ApJ*, 690, L89–L91 {42}
Helling C, Lee G, Dobbs-Dixon I, et al., 2016, The mineral clouds on HD 209458 b and HD 189733 b. *MNRAS*, 460, 855–883 {19, 21}
Heng K, 2011, Estimating the mass of the debris disk in HD 69830. *MNRAS*, 415, 3365–3368 {8}
—, 2016, A cloudiness index for transiting exoplanets based on the sodium and potassium lines: tentative evidence for hotter atmospheres being less cloudy at visible wavelengths. *ApJ*, 826, L16 {23, 43, 44}
Heng K, Demory BO, 2013, Understanding trends associated with clouds in irradiated exoplanets. *ApJ*, 777, 100 {18}
Heng K, Hayek W, Pont F, et al., 2012, On the effects of clouds and hazes in the atmospheres of hot Jupiters: semi-analytical T–P profiles. *MNRAS*, 420, 20–36 {18}
Heng K, Kopparla P, 2012, On the stability of super-Earth atmospheres. *ApJ*, 754, 60 {16, 17, 22, 23}
Heng K, Lyons JR, 2016, Carbon dioxide in exoplanetary atmospheres: rarely dominant compared to CO and H_2O in hot, hydrogen-dominated atmospheres. *ApJ*, 817, 149 {43}
Heng K, Malik M, 2013, Debris disks around M stars: non-existence versus non-detection. *MNRAS*, 432, 2562–2572 {5}
Heng K, Vogt SS, 2011, GJ 581 g as a scaled-up version of Earth: atmospheric circulation simulations. *MNRAS*, 415, 2145–2157 {5}
Heng K, Wyttenbach A, Lavie B, et al., 2015, A non-isothermal theory for interpreting sodium lines in transmission spectra of exoplanets. *ApJ*, 803, L9 {19}
Henning T, Mancini L, Sarkis P, et al., 2018, HATS–50 b through HATS–53 b: four transiting hot Jupiters orbiting G-type stars discovered by the HAT–South survey. *AJ*, 155, 79 {26}
Henry GW, 2000, Search for transits of a short-period, sub-Saturn extrasolar planet orbiting HD 46375. *ApJ*, 536, L47–L48 {8}
Henry GW, Donahue RA, Baliunas SL, 2002, A false planet around HD 192263. *ApJ*, 577, L111–L114 {12}
Henry GW, Howard AW, Marcy GW, et al., 2011, Detection of a transiting low-density super-Earth [unpublished]. *ArXiv e-prints* {17}
Henry GW, Kane SR, Wang SX, et al., 2013, Host star properties and transit exclusion for the HD 38529 planetary system. *ApJ*, 768, 155 {8}
Henry GW, Marcy G, Butler RP, et al., 1999, HD 209458. *IAU Circ.*, 7307, 1 {19}
Henry GW, Marcy GW, Butler RP, et al., 2000, A transiting 51 Peg-like planet. *ApJ*, 529, L41–L44 {19}
Henry GW, Winn JN, 2008, The rotation period of the planet-hosting star HD 189733. *AJ*, 135, 68–71 {18}
Herman MK, de Mooij EJW, Huang CX, et al., 2018, Spin–orbit misalignment and precession in the Kepler–13A b planetary system. *AJ*, 155, 13 {28}
Hernán-Obispo M, Gálvez-Ortiz MC, Anglada-Escudé G, et al., 2010, Evidence of a massive planet candidate orbiting the young active K5V star BD+20 1790. *A&A*, 512, A45 {4}
Hernán-Obispo M, Tuomi M, Gálvez-Ortiz MC, et al., 2015, Analysis of combined radial velocities and activity of BD+20 1790: evidence supporting the existence of a planetary companion. *A&A*, 576, A66 {4}
Herrero E, Morales JC, Ribas I, et al., 2011, WASP–33: the first δ Scuti exoplanet host star. *A&A*, 526, L10–L13 {44}
Herrero E, Ribas I, Jordi C, et al., 2016, Modelling the photosphere of active stars for planet detection and characterisation. *A&A*, 586, A131 {19}
Hidas MG, Tsapras Y, Mislis D, et al., 2010, An ingress and a complete transit of HD 80606 b. *MNRAS*, 406, 1146–1151 {17}
Higuchi A, Ida S, 2017, Formation of wide-orbit gas giants near the stability limit in multi-stellar systems. *AJ*, 154, 88 {53}
Higuchi AE, Sato A, Tsukagoshi T, et al., 2017, Detection of submillimeter-wave [C I] emission in gaseous debris disks of 49 Cet and β Pic. *ApJ*, 839, L14 {52}
Hinkel NR, Kane SR, 2013a, Habitability of exomoons at the Hill or tidal-locking radius. *ApJ*, 774, 27 {1, 4, 7, 9}
—, 2013b, Implications of the spectroscopic abundances in α Cen A and B. *MNRAS*, 432, L36 {2}
Hinkel NR, Kane SR, Henry GW, et al., 2015a, Refined properties of the HD 130322 planetary system. *ApJ*, 803, 8 {10}
Hinkel NR, Kane SR, Pilyavsky G, et al., 2015b, A new analysis of the exoplanet hosting system HD 6434. *AJ*, 150, 169 {6}
Hinkley S, Bowler BP, Vigan A, et al., 2015, Early results from VLT–SPHERE: long-slit spectroscopy of 2MASS 0122–2439B, a young companion near the deuterium burning limit. *ApJ*, 805, L10 {53}
Hinkley S, Carpenter JM, Ireland MJ, et al., 2011, Observational constraints on companions inside of 10 au in the HR 8799 planetary system. *ApJ*, 730, L21 {53}
Hinkley S, Pueyo L, Faherty JK, et al., 2013, The κ And system: new constraints on the companion mass, system age, and further multiplicity. *ApJ*, 779, 153 {51}
Hinse TC, Haghighipour N, Kostov VB, et al., 2015, Predicting a third planet in the Kepler–47 circumbinary system. *ApJ*, 799, 88 {30}
Hinse TC, Michelsen R, Jørgensen UG, et al., 2008, Dynamics and stability of telluric planets within the habitable zone of extrasolar planetary systems. Numerical simulations of test particles within the HD 4208 and HD 70642 systems. *A&A*,

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488, 1133–1147 {6, 9}

Hinz PM, Rodigas TJ, Kenworthy MA, et al., 2010, Thermal infrared MMT–AO observations of the HR 8799 planetary system. *ApJ*, 716, 417–426 {53}

Hippke M, Angerhausen D, 2016, A first view with Gaia on KIC–8462852: distance estimates and a comparison to other F stars [unpublished]. *ArXiv e-prints* {36}

—, 2018, The year-long flux variations in Boyajian's Star are asymmetric or aperiodic. *ApJ*, 854, L11 {36}

Hippke M, Angerhausen D, Lund MB, et al., 2016, A statistical analysis of the accuracy of the digitised magnitudes of photometric plates on the time scale of decades with an application to the century-long light curve of KIC–8462852. *ApJ*, 825, 73 {36}

Hippke M, Kroll P, Matthai F, et al., 2017, Sonneberg plate photometry for Boyajian's star in two passbands. *ApJ*, 837, 85 {36}

Hirano T, Dai F, Gandolfi D, et al., 2018a, Exoplanets around low-mass stars unveiled by K2. *AJ*, 155, 127 {38}

Hirano T, Dai F, Livingston JH, et al., 2018b, K2–155: a bright metal-poor M dwarf with three transiting super-Earths. *AJ*, 155, 124 {38}

Hirano T, Fukui A, Mann AW, et al., 2016a, The K2–ESPRINT Project. III. A close-in super Earth around a metal-rich mid-M dwarf. *ApJ*, 820, 41 {37}

Hirano T, Narita N, Sato B, et al., 2011a, Further observations of the tilted planet XO–3: a new determination of spin–orbit misalignment, and limits on differential rotation. *PASJ*, 63, L57–L61 {48}

—, 2012, Planet–planet eclipse and the Rossiter–McLaughlin effect of a multiple transiting system (KOI–94=Kepler–89): joint analysis of the Subaru spectroscopy and the Kepler photometry. *ApJ*, 759, L36 {31}

Hirano T, Narita N, Shporer A, et al., 2011b, A possible tilted orbit of the super-Neptune HAT–P–11 b. *PASJ*, 63, 531–536 {24}

Hirano T, Nowak G, Kuzuhara M, et al., 2016b, The K2–ESPRINT Project. IV. A hot Jupiter in a prograde orbit with a possible stellar companion. *ApJ*, 825, 53 {37}

Hirano T, Sanchis-Ojeda R, Takeda Y, et al., 2014, Measurements of stellar inclinations for Kepler planet candidates. II. Candidate spin–orbit misalignments in single- and multiple-transiting systems. *ApJ*, 783, 9 {33}

Hirao Y, Udalski A, Sumi T, et al., 2016, OGLE–2012–BLG–724L b: a Saturn-mass planet around an M dwarf. *ApJ*, 824, 139 {50}

—, 2017, OGLE–2013–BLG–1761L b: a massive planet around an M/K dwarf. *AJ*, 154, 1 {50}

Hoang T, Loeb A, Lazarian A, et al., 2018, Spinup and disruption of interstellar asteroids by mechanical torques, and implications for Oumuamua. *ApJ*, 860, 42 {54}

Hobson MJ, Díaz RF, Delfosse X, et al., 2018, The SOPHIE search for northern extrasolar planets. XIII. Two planets around M-dwarfs GJ 617A and GJ 96. *A&A*, 618, A103 {4, 11}

Hodosán G, Helling C, Asensio-Torres R, et al., 2016a, Lightning climatology of exoplanets and brown dwarfs guided by solar system data. *MNRAS*, 461, 3927–3947 {16, 19, 30, 33, 46, 52}

Hodosán G, Rimmer PB, Helling C, 2016b, Is lightning a possible source of the radio emission on HAT–P–11 b? *MNRAS*, 461, 1222–1226 {24}

Hodžić V, Triaud AHMJ, Anderson DR, et al., 2018, WASP–128 b: a transiting brown dwarf in the dynamical-tide regime. *MNRAS*, 481, 5091–5097 {47}

Hoeijmakers HJ, Ehrenreich D, Heng K, et al., 2018a, Atomic iron and titanium in the atmosphere of the exoplanet KELT–9 b. *Nature*, 560, 453–455 {27}

Hoeijmakers HJ, Schwarz H, Snellen IAG, et al., 2018b, Medium-resolution integral-field spectroscopy for high-contrast exoplanet imaging: molecule maps of the β Pic system with SINFONI. *A&A*, 617, A144 {52}

Hoeijmakers HJ, Snellen IAG, van Terwisga SE, 2018c, Searching for reflected light from τ Boo b with high-resolution ground-based spectroscopy: approaching the 10^{-5} contrast barrier. *A&A*, 610, A47 {2}

Hoffmann V, Grimm SL, Moore B, et al., 2017, Stochasticity and predictability in terrestrial planet formation. *MNRAS*, 465, 2170–2188 {22}

Holczer T, Mazeh T, Nachmani G, et al., 2016, Transit timing observations from Kepler. IX. Catalogue of the full long-cadence data set. *ApJS*, 225, 9 {30, 36}

Holczer T, Shporer A, Mazeh T, et al., 2015, Time variation of Kepler transits induced by stellar spots: a way to distinguish between prograde and retrograde motion. II. Application to KOIs. *ApJ*, 807, 170 {24, 28, 30, 31, 35}

Holland WS, Greaves JS, Dent WRF, et al., 2003, Submillimeter observations of an asymmetric dust disk around Fomalhaut. *ApJ*, 582, 1141–1146 {51}

Holman MJ, Fabrycky DC, Ragozzine D, et al., 2010, Kepler–9: a system of multiple planets transiting a Sun-like star, confirmed by timing variations. *Science*, 330, 51–54 {27}

Holman MJ, Touma J, Tremaine S, 1997, Chaotic variations in the eccentricity of the planet orbiting 16 Cyg B. *Nature*, 386, 254–256 {3}

Holman MJ, Winn JN, Fuentes CI, et al., 2007a, The Transit Light Curve Project. IV. Five transits of the exoplanet OGLE–TR–10 b. *ApJ*, 655, 1103–1109 {39}

Holman MJ, Winn JN, Latham DW, et al., 2006, The Transit Light Curve Project. I. Four consecutive transits of the exoplanet XO–1 b. *ApJ*, 652, 1715–1723 {47}

—, 2007b, The Transit Light Curve project. VI. Three transits of the exoplanet TrES–2. *ApJ*, 664, 1185–1189 {40}

Holmström M, Ekenbäck A, Selsis F, et al., 2008, Energetic neutral atoms as the explanation for the high-velocity hydrogen around HD 209458 b. *Nature*, 451, 970–972 {20}

Hood B, Wood K, Seager S, et al., 2008, Reflected light from 3d exoplanetary atmospheres and simulation of HD 209458 b. *MNRAS*, 389, 257–269 {20}

Hooton MJ, Watson CA, de Mooij EJW, et al., 2018, A ground-based near-ultraviolet secondary eclipse observation of KELT–9 b. *ApJ*, 869, L25 {27}

Horner J, Wittenmyer RA, Hinse TC, et al., 2014, A dynamical investigation of the proposed BD+20 2457 system. *MNRAS*, 439, 1176–1181 {4}

Howard AW, Bakos GÁ, Hartman J, et al., 2012, HAT–P–17 b, c: a transiting, eccentric, hot Saturn and a long-period, cold Jupiter. *ApJ*, 749, 134 {25}

Howard AW, Johnson JA, Marcy GW, et al., 2009, The NASA–UC Eta–Earth programme. I. A super-Earth orbiting HD 7924. *ApJ*, 696, 75–83 {6}

—, 2010, The California planet survey. I. Four new giant exoplanets. *ApJ*, 721, 1467–1481 {4, 7, 10}

—, 2011a, The NASA–UC Eta–Earth programme. II. A planet orbiting HD 156668 with a minimum mass of $4M_\oplus$. *ApJ*, 726, 73–77 {11}

—, 2011b, The NASA–UC Eta–Earth programme. III. A super-Earth orbiting HD 97658 and a Neptune-mass planet orbiting GJ 785. *ApJ*, 730, 10–16 {12, 17}

Howard AW, Marcy GW, Fischer DA, et al., 2014, The NASA–UC–UH ETA–Earth programme. IV. A low-mass planet orbiting an M dwarf 3.6 pc from Earth. *ApJ*, 794, 51 {4}

Howard AW, Sanchis-Ojeda R, Marcy GW, et al., 2013, A rocky composition for an Earth-sized exoplanet. *Nature*, 503, 381–384 {31}

Howard WS, Tilley MA, Corbett H, et al., 2018, The first naked-eye superflare detected from Proxima Cen. *ApJ*, 860, L30 {2}

Howarth ID, 2016, A reappraisal of parameters for the putative planet PTFO 8–8695 b and its potentially precessing parent star. *MNRAS*, 457, 3769–3774 {39}

Howarth ID, Morello G, 2017, Rapid rotators revisited: absolute dimensions of KOI–13 (Kepler–13). *MNRAS*, 470, 932–939 {28}

Howe AR, Burrows A, 2015, Evolutionary models of super-Earths and mini-Neptunes incorporating cooling and mass loss. *ApJ*, 808, 150 {28}

Howe AR, Burrows AS, 2012, Theoretical transit spectra for GJ 1214 b and other super-Earths. *ApJ*, 756, 176 {23}

Howell SB, Everett ME, Horch EP, et al., 2016, Speckle imaging excludes low-mass companions orbiting the exoplanet host star TRAPPIST–1. *ApJ*, 829, L2 {40}

Howell SB, Everett ME, Sherry W, et al., 2011, Speckle camera observations for the NASA Kepler mission follow-up programme. *AJ*, 142, 19 {28}

Howell SB, Rowe JF, Bryson ST, et al., 2012, Kepler–21 b: a $1.6R_\oplus$ planet transiting the bright oscillating F subgiant star HD 179070. *ApJ*, 746, 123 {28}

Howell SB, Rowe JF, Sherry W, et al., 2010, Kepler observations of three pre-launch exoplanet candidates: discovery of two eclipsing binaries and a new exoplanet. *ApJ*, 725, 1633–1643 {31}

Hoyer S, López-Morales M, Rojo P, et al., 2013, TraMoS project. III. Improved physical parameters, timing analysis and star spot modelling of the WASP–4 b exoplanet system from 38 transit observations. *MNRAS*, 434, 46–58 {42}

—, 2016a, TraMoS. IV. Discarding the quick orbital decay hypothesis for OGLE–TR–113 b. *MNRAS*, 455, 1334–1340 {39}

Hoyer S, Pallé E, Dragomir D, et al., 2016b, Ruling out the orbital decay of the WASP–43 b exoplanet. *AJ*, 151, 137 {45}

Hoyer S, Rojo P, López-Morales M, 2012, Transit monitoring in the south (TraMoS) project: discarding transit timing variations in WASP–5 b. *ApJ*, 748, 22 {42}

Hoyer S, Rojo P, López-Morales M, et al., 2011, Five new transit epochs of the exoplanet OGLE–TR–111 b. *ApJ*, 733, 53 {39}

Hrudková M, Hatzes A, Karjalainen R, et al., 2017, The discovery of a planetary candidate around the evolved low-mass Kepler giant star HD 175370. *MNRAS*, 464, 1018–1028 {12}

Hrudková M, Skillen I, Benn CR, et al., 2010, Tight constraints on the existence of additional planets around HD 189733. *MNRAS*, 403, 2111–2119 {18}

Hu R, Demory BO, Seager S, et al., 2015a, A semi-analytical model of visible-wavelength phase curves of exoplanets and applications to Kepler–7 b and Kepler–10 b. *ApJ*, 802, 51 {27}

Hu R, Seager S, 2014, Photochemistry in terrestrial exoplanet atmospheres. III. Photochemistry and thermochemistry in thick atmospheres on super Earths and mini Neptunes. *ApJ*, 784, 63 {16, 17, 23}

Hu R, Seager S, Yung YL, 2015b, Helium atmospheres on warm Neptune- and sub-Neptune-sized exoplanets and applications to GJ 436 b. *ApJ*, 807, 8 {17}

Hu Y, Ding F, 2011, Radiative constraints on the habitability of exoplanets GJ 581 c and GJ 581 d. *A&A*, 526, A135 {5}

Hu Y, Wang Y, Liu Y, et al., 2017, Climate and habitability of Kepler–452 b simulated with a fully coupled atmosphere-ocean general circulation model. *ApJ*, 835, L6 {35}

Huang C, Arras P, Christie D, et al., 2017a, A model of the Hα and Na transmission spectrum of HD 189733 b. *ApJ*, 851, 150 {19}

Huang C, Wu Y, Triaud AHMJ, 2016, Warm Jupiters are less lonely than hot Jupiters: close neighbours. *ApJ*, 825, 98 {45}

Huang CX, Hartman JD, Bakos GÁ, et al., 2015, HAT–P–56 b: an inflated massive hot Jupiter transiting a bright F star followed up with K2 Campaign 0 observations. *AJ*, 150, 85 {26}

Huang CX, Petrovich C, Deibert E, 2017b, Dynamically hot super-Earths from outer giant planet scattering. *AJ*, 153, 210 {10}

Huang PH, Ji JH, 2016, Analogue simulation and orbital solving algorithm of astrometric exoplanet detection. *Acta Astronomica Sinica*, 57, 568–584 {2, 6, 8}

Huang Ph, Ji Jh, 2017, Analogue simulation and orbit solution algorithm of astrometric exoplanet detection. *Chin. Astron. Astrophys.*, 41, 399–418 {2, 6, 8}

Huber D, Carter JA, Barbieri M, et al., 2013a, Stellar spin–orbit misalignment in a multi-planet system. *Science*, 342, 331–334 {30}

Huber D, Chaplin WJ, Christensen-Dalsgaard J, et al., 2013b, Fundamental properties of Kepler planet-candidate host stars using asteroseismology. *ApJ*, 767, 127 {27, 28, 29}

Huber D, Ireland MJ, Bedding TR, et al., 2012, Validation of Kepler–21 b using CHARA–PAVO long-baseline interferometry. *MNRAS*, 423, L16–L20 {28}

Huber KF, Czesla S, Schmitt JHMM, 2017, Discovery of the secondary eclipse of HAT–P–11 b. *A&A*, 597, A113 {24}

Huber KF, Czesla S, Wolter U, et al., 2009, A planetary eclipse map of CoRoT–2. Comprehensive light curve modeling combining rotational-modulation and transits. *A&A*, 508, 901–907 {21}

Hudgins DW, Filipović MD, 2002, Photometric techniques using small college research instruments for study of the extrasolar planetary transits of HD 209458. *Publ. Astron. Soc. Australia*, 19, 443–447 {19}

Hughes AM, Wilner DJ, Andrews SM, et al., 2011, Resolved sub-mm observations of the HR 8799 and HD 107146 debris disks. *ApJ*, 740, 38 {53}

Huitson CM, Désert JM, Bean JL, et al., 2017, Gemini–GMOS transmission spectral

survey: complete optical transmission spectrum of the hot Jupiter WASP–4 b. *AJ*, 154, 95 {42}
Huitson CM, Sing DK, Pont F, et al., 2013, An HST optical to near-infrared transmission spectrum of the hot Jupiter WASP–19 b: detection of atmospheric water and likely absence of TiO. *MNRAS*, 434, 3252–3274 {44}
Huitson CM, Sing DK, Vidal-Madjar A, et al., 2012, Temperature-pressure profile of the hot Jupiter HD 189733 b from HST sodium observations: detection of upper atmospheric heating. *MNRAS*, 422, 2477–2488 {18}
Husnoo N, Pont F, Hébrard G, et al., 2011, Orbital eccentricity of WASP–12 and WASP–14 from new radial velocity monitoring with SOPHIE. *MNRAS*, 413, 2500–2508 {42, 43}
Husnoo N, Pont F, Mazeh T, et al., 2012, Observational constraints on tidal effects using orbital eccentricities. *MNRAS*, 422, 3151–3177 {18, 21, 22, 24, 25, 41, 42, 43, 44, 45, 48}
Hussain GAJ, Alvarado-Gómez JD, Grunhut J, et al., 2016, A spectro-polarimetric study of the planet-hosting G dwarf, HD 147513. *A&A*, 585, A77 {11}
Hwang J, Chatterjee S, Lombardi J Jr, et al., 2018a, Outcomes of grazing impacts between sub-Neptunes in Kepler multis. *ApJ*, 852, 41 {29}
Hwang JA, Steffen JH, Lombardi JC Jr, et al., 2017, Dynamics and collisional evolution of closely packed planetary systems. *MNRAS*, 470, 4145–4162 {28}
Hwang KH, Kim HW, Kim DJ, et al., 2018b, KMT–2016–BLG–0212: first KMTNet-only discovery of a substellar companion. *Journal of Korean Astronomical Society*, 51, 197–206 {50}
Hwang KH, Udalski A, Bond IA, et al., 2018c, OGLE–2015–BLG–1459L: the challenges of exo-moon microlensing. *AJ*, 155, 259 {50}
Hwang KH, Udalski A, Shvartzvald Y, et al., 2018d, OGLE–2017–BLG–0173L b: low-mass-ratio planet in a 'Hollywood' microlensing event. *AJ*, 155, 20 {50}
Ibgui L, Burrows A, Spiegel DS, 2010, Tidal heating models for the radii of the inflated transiting giant planets WASP–4 b, WASP–6 b, WASP–12 b, WASP–15 b, and TrES–4. *ApJ*, 713, 751–763 {41, 42, 43}
Ibgui L, Spiegel DS, Burrows A, 2011, Explorations into the viability of coupled radius–orbit evolutionary models for inflated planets. *ApJ*, 727, 75 {20, 41, 42, 43}
Ikoma M, Guillot T, Genda H, et al., 2006, On the origin of HD 149026 b. *ApJ*, 650, 1150–1159 {17}
Ikoma M, Hori Y, 2012, *In situ* accretion of H-rich atmospheres on short-period super-Earths: implications for the Kepler–11 planets. *ApJ*, 753, 66 {27}
Ingalls JG, Krick JE, Carey SJ, et al., 2016, Repeatability and accuracy of exoplanet eclipse depths measured with post-cryogenic Spitzer. *AJ*, 152, 44 {48}
Ingraham P, Marley MS, Saumon D, et al., 2014, Gemini Planet Imager (GPI) spectroscopy of the HR 8799 planets c and d. *ApJ*, 794, L15 {53}
Ioannidis P, Schmitt JHMM, 2016, Glimpses of stellar surfaces. I. Spot evolution and differential rotation of the planet host star Kepler–210. *A&A*, 594, A41 {33}
Ioannidis P, Schmitt JHMM, Avdellidou C, et al., 2014, Kepler–210: an active star with at least two planets. *A&A*, 564, A33 {33}
Ionov DE, Bisikalo DV, Shematovich VI, et al., 2014, Ionisation fraction in the thermosphere of the exoplanet HD 209458 b. *Solar System Research*, 48, 105–112 {20}
Ionov DE, Shematovich VI, 2015, Hydrogen-dominated upper atmosphere of an exoplanet: heating by stellar radiation from soft X-rays to extreme ultraviolet. *Solar System Research*, 49, 339–345 {21}
Iorio L, 2006a, Are we far from testing general relativity with the transiting extrasolar planet HD 209458 b? *New Astron.*, 11, 490–494 {20}
—, 2006b, Dynamical constraints on the quadrupole mass moment of the HD 209458 star. *General Relativity and Quantum Cosmology e-prints* {20}
—, 2011, Classical and relativistic node precessional effects in WASP–33 b and perspectives for detecting them. *Ap&SS*, 331, 485–496 {44}
—, 2016, Accurate characterisation of the stellar and orbital parameters of the exoplanetary system WASP–33 b from orbital dynamics. *MNRAS*, 455, 207–213 {44}
Iorio L, Ruggiero ML, 2010, Constraining the Kehagias–Sfetsos solution of the Hořava–Lifshitz modified gravity with extrasolar planets. *The Open Astronomy Journal*, 3, 167–171 {20}
Ireland MJ, Kraus A, Martinache F, et al., 2011, Two wide planetary-mass companions to solar-type stars in Upper Scorpius. *ApJ*, 726, 113 {54}
Iro N, Bézard B, Guillot T, 2005, A time-dependent radiative model of HD 209458 b. *A&A*, 436, 719–727 {20}
Iro N, Deming LD, 2010, A time-dependent radiative model for the atmosphere of eccentric exoplanets. *ApJ*, 712, 218–225 {17}
Iro N, Maxted PFL, 2013, On the heat redistribution of the hot transiting exoplanet WASP–18 b. *Icarus*, 226, 1719–1723 {43}
Irwin J, Charbonneau D, Nutzman P, et al., 2008, Parameters and predictions for the long-period transiting planet HD 17156 b. *ApJ*, 681, 636–643 {17}
Isella A, Chandler CJ, Carpenter JM, et al., 2014, Searching for circumplanetary disks around LkCa 15. *ApJ*, 788, 129 {54}
Isella A, Huang J, Andrews SM, et al., 2018, The Disk Substructures at High Angular Resolution Project (DSHARP). IX. A high-definition study of the HD 163296 planet-forming disk. *ApJ*, 869, L49 {11}
Isella A, Pérez LM, Carpenter JM, 2012, On the nature of the transition disk around LkCa 15. *ApJ*, 747, 136 {54}
Israelian G, Santos NC, Mayor M, et al., 2001, Evidence for planet engulfment by the star HD 82943. *Nature*, 411, 163–166 {9}
—, 2003, New measurement of the ^{6}Li/^{7}Li isotopic ratio in the extrasolar planet host star HD 82943 and line blending in the Li 670.8 nm region. *A&A*, 405, 753–762 {9}
Ito T, Miyama SM, 2001, An estimation of upper limit masses of υ And planets. *ApJ*, 552, 372–379 {1}
Itoh Y, Hayashi M, Tamura M, et al., 2005, A young brown dwarf companion to DH Tau. *ApJ*, 620, 984–993 {52}
Jackson AP, Tamayo D, Hammond N, et al., 2018, Ejection of rocky and icy material from binary star systems: implications for the origin and composition of Oumuamua. *MNRAS*, 478, L49–L53 {54}
Jackson AP, Wyatt MC, Bonsor A, et al., 2014, Debris from giant impacts between planetary embryos at large orbital radii. *MNRAS*, 440, 3757–3777 {52}
Jackson B, Arras P, Penev K, et al., 2017, A new model of Roche lobe overflow for short-period gaseous planets and binary stars. *ApJ*, 835, 145 {22, 39, 43}
Jackson B, Lewis NK, Barnes JW, et al., 2012, The EVIL-MC model for ellipsoidal variations of planet-hosting stars and applications to the HAT–P–7 system. *ApJ*, 751, 112 {24}
Jackson B, Miller N, Barnes R, et al., 2010, The roles of tidal evolution and evaporative mass loss in the origin of CoRoT–7 b. *MNRAS*, 407, 910–922 {22}
Jaime LG, Pichardo B, Aguilar L, 2012, Regions of dynamical stability for disks and planets in binary stars of the solar neighbourhood. *MNRAS*, 427, 2723–2733 {28}
Jamialahmadi N, Ratzka T, Panić O, et al., 2018, Constraining the gap size in the disk around HD 100546 in the mid-infrared. *ApJ*, 865, 137 {53}
Janczak J, Fukui A, Dong S, et al., 2010, Sub-Saturn planet MOA–2008–BLG–310Lb: likely to be in the Galactic bulge. *ApJ*, 711, 731–743 {49}
Jang-Condell H, Mugrauer M, Schmidt T, 2008, Disk truncation and planet formation in γ Cep. *ApJ*, 683, L191–L194 {2}
Janson M, Bergfors C, Goto M, et al., 2010, Spatially resolved spectroscopy of the exoplanet HR 8799 c. *ApJ*, 710, L35–L38 {53}
Janson M, Brandner W, Henning T, et al., 2007, NACO–SDI direct imaging search for the exoplanet ϵ Eri b. *AJ*, 133, 2442–2456 {3}
Janson M, Brandt TD, Kuzuhara M, et al., 2013, Direct imaging detection of CH_4 in the atmosphere of GJ 504 b. *ApJ*, 778, L4 {52}
Janson M, Carson JC, Lafrenière D, et al., 2012, Infrared non-detection of Fomalhaut b: implications for the planet interpretation. *ApJ*, 747, 116 {51}
Janson M, Quanz SP, Carson JC, et al., 2015, High-contrast imaging with Spitzer: deep observations of Vega, Fomalhaut, and ϵ Eri. *A&A*, 574, A120 {3, 51}
Janson M, Reffert S, Brandner W, et al., 2008, A comprehensive examination of the ϵ Eri system: verification of a 4 μm narrow-band high-contrast imaging approach for planet searches. *A&A*, 488, 771–780 {3}
Jayawardhana R, Holland WS, Kalas P, et al., 2002, New submillimeter limits on dust in the 55 Cnc planetary system. *ApJ*, 570, L93–L96 {16}
Jenkins JM, Borucki WJ, Koch DG, et al., 2010, Discovery and Rossiter–McLaughlin effect of exoplanet Kepler–8 b. *ApJ*, 724, 1108–1119 {27}
Jenkins JM, Twicken JD, Batalha NM, et al., 2015, Discovery and validation of Kepler–452 b: a 1.6$R_\oplus$ super Earth exoplanet in the habitable zone of a G2 star. *AJ*, 150, 56 {35}
Jenkins JS, Jones HRA, Tuomi M, et al., 2013a, A hot Uranus orbiting the super metal-rich star HD 77338 and the metallicity-mass connection. *ApJ*, 766, 67 {9}
—, 2017, New planetary systems from the Calan–Hertfordshire Extrasolar Planet Search. *MNRAS*, 466, 443–473 {6, 8, 9, 10, 11, 13}
Jenkins JS, Tuomi M, 2014, The curious case of HD 41248: a pair of static signals buried behind red noise. *ApJ*, 794, 110 {8}
Jenkins JS, Tuomi M, Brasser R, et al., 2013b, Two super-Earths orbiting the solar analogue HD 41248 on the edge of a 7:5 mean motion resonance. *ApJ*, 771, 41 {8}
Jenkins JS, Yoma NB, Rojo P, et al., 2014, Improved signal detection algorithms for unevenly sampled data: six signals in the radial velocity data for GJ 876. *MNRAS*, 441, 2253–2265 {5}
Jensen AG, Cauley PW, Redfield S, et al., 2018, Hydrogen and sodium absorption in the optical transmission spectrum of WASP–12 b. *AJ*, 156, 154 {43}
Jensen AG, Redfield S, Endl M, et al., 2011, A survey of alkali line absorption in exoplanetary atmospheres. *ApJ*, 743, 203 {18, 20, 23}
—, 2012, A detection of Hα in an exoplanetary exosphere. *ApJ*, 751, 86 {18, 20}
Jeong G, Lee BC, Han I, et al., 2018, Detection of planet candidates around K giants, HD 40956, HD 111591, and HD 113996. *A&A*, 610, A3 {8, 10}
Jewitt D, Luu J, Rajagopal J, et al., 2017, Interstellar interloper Oumuamua: observations from the NOT and WIYN telescopes. *ApJ*, 850, L36 {54}
Jha S, Charbonneau D, Garnavich PM, et al., 2000, Multicolour observations of a planetary transit of HD 209458. *ApJ*, 540, L45–L48 {19}
Ji J, Kinoshita H, Liu L, et al., 2003a, The apsidal antialignment of the HD 82943 system. *Cel. Mech. Dyn. Astron.*, 87, 113–120 {9}
—, 2003b, Could the 55 Cnc planetary system really be in the 3:1 mean motion resonance? *ApJ*, 585, L139–L142 {16}
—, 2007, The secular evolution and dynamical architecture of the Neptunian triplet planetary system HD 69830. *ApJ*, 657, 1092–1097 {8}
Ji J, Li G, Liu L, 2002a, The dynamical simulations of the planets orbiting GJ 876. *ApJ*, 572, 1041–1047 {5}
Ji J, Liu L, Kinoshita H, et al., 2003c, The librating companions in HD 37124, HD 12661, HD 82943, 47 UMa, and GJ 876: alignment or antialignment? *ApJ*, 591, L57–L60 {4, 5, 7, 9}
—, 2005, Could the 47 UMa planetary system be a second solar system? Predicting the Earth-like planets. *ApJ*, 631, 1191–1197 {4}
Ji JH, Liu L, Kinoshita H, et al., 2002b, The stabilising mechanism of the HD 82943 planetary system. *Chinese Astronomy and Astrophysics*, 26, 379–385 {9}
Ji Y, Banks T, Budding E, et al., 2017, An investigation into exoplanet transits and uncertainties. *Ap&SS*, 362, 112 {24, 31, 41}
Jiang IG, Ip WH, 2001, The planetary system of υ And. *A&A*, 367, 943–948 {1}
Jiang IG, Lai CY, Savushkin A, et al., 2016, The possible orbital decay and transit timing variations of the planet WASP–43 b. *AJ*, 151, 17 {45}
Jiang IG, Yeh LC, Thakur P, et al., 2013, Possible transit timing variations of the TrES–3 planetary system. *AJ*, 145, 68 {41}
Jiménez-Torres JJ, 2016, 3d modeling of spectra and light curves of hot Jupiters with PHOENIX: a first approach. *Rev. Mex. Astron. Astrofis.*, 52, 69–82 {12}
Jin S, Ji J, 2011, Terrestrial planet formation in inclined systems: application to the OGLE–2006–BLG–109L system. *MNRAS*, 418, 1335–1345 {50}
Johns-Krull CM, McCullough PR, Burke CJ, et al., 2008, XO–3 b: a massive planet in an eccentric orbit transiting an F5V star. *ApJ*, 677, 657–670 {48}
Johns-Krull CM, McLane JN, Prato L, et al., 2016a, A candidate young massive planet in orbit around the classical T Tauri star CI Tau. *ApJ*, 826, 206 {4}

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Johns-Krull CM, Prato L, McLane JN, et al., 2016b, Hα variability in PTFO 8–8695 and the possible direct detection of emission from a 2 million year old evaporating hot Jupiter. *ApJ*, 830, 15 {39}
Johnson JA, Bowler BP, Howard AW, et al., 2010a, A hot Jupiter orbiting the 1.7 solar mass subgiant HD 102956. *ApJ*, 721, L153–L157 {10}
Johnson JA, Butler RP, Marcy GW, et al., 2007a, A new planet around an M dwarf: revealing a correlation between exoplanets and stellar mass. *ApJ*, 670, 833–840 {5}
Johnson JA, Clanton C, Howard AW, et al., 2011a, Retired A stars and their companions. VII. 18 new Jovian planets. *ApJS*, 197, 26 {6, 7, 9, 10, 11}
Johnson JA, Fischer DA, Marcy GW, et al., 2007b, Retired a stars and their companions: exoplanets orbiting three intermediate-mass subgiants. *ApJ*, 665, 785–793 {12, 13}
Johnson JA, Gazak JZ, Apps K, et al., 2012, Characterising the cool KOIs. II. The M dwarf KOI–254 (Kepler–45) and its hot Jupiter. *AJ*, 143, 111 {30}
Johnson JA, Howard AW, Bowler BP, et al., 2010b, Retired A stars and their companions. IV. Seven Jovian exoplanets from Keck Observatory. *PASP*, 122, 701–711 {6, 9, 10, 12, 13}
Johnson JA, Howard AW, Marcy GW, et al., 2010c, The California planet survey. II. A Saturn-mass planet orbiting the M dwarf GJ 649. *PASP*, 122, 149–155 {5}
Johnson JA, Marcy GW, Fischer DA, et al., 2006a, An eccentric hot Jupiter orbiting the subgiant HD 185269. *ApJ*, 652, 1724–1728 {12}
—, 2006b, The N2K consortium. VI. Doppler shifts without templates and three new short-period planets. *ApJ*, 647, 600–611 {7, 9, 13}
—, 2008a, Retired A stars and their companions. II. Jovian planets orbiting κ CrB and HD 167042. *ApJ*, 675, 784–789 {3, 11}
Johnson JA, Payne M, Howard AW, et al., 2011b, Retired A stars and their companions. VI. A pair of interacting exoplanet pairs around the subgiants 24 Sex and HD 200964. *AJ*, 141, 16–22 {4, 12}
Johnson JA, Winn JN, Albrecht S, et al., 2009a, A third exoplanetary system with misaligned orbital and stellar spin axes. *PASP*, 121, 1104–1111 {43}
Johnson JA, Winn JN, Bakos GÁ, et al., 2011c, HAT–P–30 b: a transiting hot Jupiter on a highly oblique orbit. *ApJ*, 735, 24 {25}
Johnson JA, Winn JN, Cabrera NE, et al., 2009b, A smaller radius for the transiting exoplanet WASP–10 b. *ApJ*, 692, L100–L104 {42}
Johnson JA, Winn JN, Narita N, et al., 2008b, Measurement of the spin–orbit angle of exoplanet HAT–P–1 b. *ApJ*, 686, 649–657 {23}
Johnson MC, Cochran WD, Addison BC, et al., 2017, Spin–orbit misalignments of three Jovian planets via Doppler tomography. *AJ*, 154, 137 {26, 35, 46}
Johnson MC, Cochran WD, Albrecht S, et al., 2014, A misaligned prograde orbit for Kepler–13 Ab via Doppler tomography. *ApJ*, 790, 30 {28}
Johnson MC, Cochran WD, Collier Cameron A, et al., 2015a, Measurement of the nodal precession of WASP–33 b via Doppler tomography. *ApJ*, 810, L23 {44}
Johnson MC, Dai F, Justesen AB, et al., 2018a, K2–260 b: a hot Jupiter transiting an F star, and K2–261 b: a warm Saturn around a bright G star. *MNRAS*, 481, 596–612 {38}
Johnson MC, Endl M, Cochran WD, et al., 2016a, A 12-yr activity cycle for the nearby planet host star HD 219134. *ApJ*, 821, 74 {21}
Johnson MC, Gandolfi D, Fridlund M, et al., 2016b, Two hot Jupiters from K2 campaign 4. *AJ*, 151, 171 {37}
Johnson MC, Redfield S, Jensen AG, 2015b, The interstellar medium in the Kepler search volume. *ApJ*, 807, 162 {28, 30, 33, 34, 35}
Johnson MC, Rodriguez JE, Zhou G, et al., 2018b, KELT–21 b: a hot Jupiter transiting the rapidly rotating metal-poor late-A primary of a likely hierarchical triple system. *AJ*, 155, 100 {27}
Joiner DA, Sul C, Dragomir D, et al., 2014, A consistent orbital stability analysis for the GJ 581 system. *ApJ*, 788, 160 {5}
Jones BW, Sleep PN, 2002, The stability of the orbits of Earth-mass planets in the habitable zone of 47 UMa. *A&A*, 393, 1015–1026 {4}
Jones HRA, Butler RP, Marcy GW, et al., 2002a, Extrasolar planets around HD 196050, HD 216437 and HD 160691. *MNRAS*, 337, 1170–1178 {1, 12, 13}
Jones HRA, Butler RP, Tinney CG, et al., 2003, An exoplanet in orbit around τ^1 Gru (HD 216435). *MNRAS*, 341, 948–952 {13}
—, 2004, HD 10647 and the distribution of exoplanet properties with semi-major axis. *Extrasolar Planets: Today and Tomorrow*, volume 321 of *ASP Conf. Ser.*, 298 {6}
—, 2006, High-eccentricity planets from the Anglo–Australian Planet Search. *MNRAS*, 369, 249–256 {7, 12}
—, 2010, A long-period planet orbiting a nearby Sun-like star. *MNRAS*, 403, 1703 {10}
Jones HRA, Paul Butler R, Tinney CG, et al., 2002b, A probable planetary companion to HD 39091 from the Anglo–Australian planet search. *MNRAS*, 333, 871–875 {26}
Jones J, White RJ, Quinn S, et al., 2016a, The age of the directly imaged planet host star κ And determined from interferometric observations. *ApJ*, 822, L3 {51}
Jones MI, Brahm R, Espinoza N, et al., 2018, A hot Saturn on an eccentric orbit around the giant star K2–132. *A&A*, 613, A76 {38}
Jones MI, Brahm R, Wittenmyer RA, et al., 2017, An eccentric companion at the edge of the brown dwarf desert orbiting the $2.4 M_\odot$ giant star HIP 67537. *A&A*, 602, A58 {13}
Jones MI, Jenkins JS, 2014, No evidence of the planet orbiting the extremely metal-poor extragalactic star HIP 13044. *A&A*, 562, A129 {13}
Jones MI, Jenkins JS, Bluhm P, et al., 2014, The properties of planets around giant stars. *A&A*, 566, A113 {13}
Jones MI, Jenkins JS, Brahm R, et al., 2016b, Four new planets around giant stars and the mass-metallicity correlation of planet-hosting stars. *A&A*, 590, A38 {13}
Jones MI, Jenkins JS, Rojo P, et al., 2013, Study of the impact of the post-main sequence evolution of the host star on the orbits of close-in planets. II. A giant planet in a close-in orbit around the RGB star HIP 63242. *A&A*, 556, A78 {13}
—, 2015a, A planetary system and a highly eccentric brown dwarf around the giant stars HIP 67851 and HIP 97233. *A&A*, 573, A3 {13}
—, 2015b, Giant planets around two intermediate-mass evolved stars and confirmation of the planetary nature of HIP 67851 c. *A&A*, 580, A14 {13}
Jontof-Hutter D, Ford EB, Rowe JF, et al., 2016, Secure mass measurements from transit timing: 10 Kepler exoplanets between $3-8 M_\oplus$ with diverse densities and incident fluxes. *ApJ*, 820, 39 {29, 30, 32, 34}
Jontof-Hutter D, Lissauer JJ, Rowe JF, et al., 2014, Kepler–79's low density planets. *ApJ*, 785, 15 {31}
Jontof-Hutter D, Rowe JF, Lissauer JJ, et al., 2015, The mass of the Mars-sized exoplanet Kepler–138 b from transit timing. *Nature*, 522, 321–323 {32}
Jontof-Hutter D, Truong VH, Ford EB, et al., 2018, Dynamical constraints on non-transiting planets orbiting TRAPPIST–1. *AJ*, 155, 239 {40}
Jontof-Hutter D, Weaver BP, Ford EB, et al., 2017, Outer architecture of Kepler–11: constraints from coplanarity. *AJ*, 153, 227 {28}
Jordán A, Brahm R, Bakos GÁ, et al., 2014, HATS–4 b: a dense hot Jupiter transiting a super metal-rich G star. *AJ*, 148, 29 {26}
Jordán A, Espinoza N, Rabus M, et al., 2013, A ground-based optical transmission spectrum of WASP–6 b. *ApJ*, 778, 184 {42}
Joshi YC, Pollacco D, Collier Cameron A, et al., 2009, WASP–14 b: $7.3 M_J$ transiting planet in an eccentric orbit. *MNRAS*, 392, 1532–1538 {43}
Juncher D, Buchhave LA, Hartman JD, et al., 2015, HAT–P–55 b: a hot Jupiter transiting a Sun-like star. *PASP*, 127, 851–856 {26}
Jung YK, Hwang KH, Ryu YH, et al., 2018a, KMT–2016–BLG–1820 and KMT–2016–BLG–2142: two microlensing binaries composed of planetary-mass companions and very-low-mass primaries. *AJ*, 156, 208 {50}
Jung YK, Udalski A, Gould A, et al., 2018b, OGLE–2017–BLG–1522: a giant planet around a brown dwarf located in the Galactic Bulge. *AJ*, 155, 219 {50}
Jung YK, Udalski A, Sumi T, et al., 2015, OGLE–2013–BLG–102LA,B: a microlensing binary. *ApJ*, 798, 123 {50}
Juvan IG, Lendl M, Cubillos PE, et al., 2018, PyTranSpot: a tool for multiband light curve modeling of planetary transits and stellar spots. *A&A*, 610, A15 {45}
Kaib NA, Raymond SN, Duncan MJ, 2011, 55 Cnc: a coplanar planetary system that is likely misaligned with its star. *ApJ*, 742, L24 {16}
Kaib NA, White EB, Izidoro A, 2018, Simulations of the Fomalhaut system within its local Galactic environment. *MNRAS*, 473, 470–491 {51}
Kains N, Street RA, Choi JY, et al., 2013, A giant planet beyond the snow line in OGLE–2011–BLG–251. *A&A*, 552, A70 {50}
Kalas P, Graham JR, Chiang E, et al., 2008, Optical images of an exosolar planet 25 light-years from Earth. *Science*, 322, 1345–1348 {51}
Kalas P, Graham JR, Clampin M, 2005, A planetary system as the origin of structure in Fomalhaut's dust belt. *Nature*, 435, 1067–1070 {51}
Kalas P, Graham JR, Fitzgerald MP, et al., 2013, HST–STIS coronagraphic imaging of Fomalhaut: main belt structure and the orbit of Fomalhaut b. *ApJ*, 775, 56 {51}
Kalas P, Larwood J, Smith BA, et al., 2000, Rings in the planetesimal disk of β Pic. *ApJ*, 530, L133–L137 {52}
Kalas P, Rajan A, Wang JJ, et al., 2015, Direct imaging of an asymmetric debris disk in the HD 106906 planetary system. *ApJ*, 814, 32 {53}
Kaltenegger L, Haghighipour N, 2013, Calculating the habitable zone of binary star systems. I. S-type binaries. *ApJ*, 777, 165 {2}
Kaltenegger L, Sasselov D, Rugheimer S, 2013, Water-planets in the habitable zone: atmospheric chemistry, observable features, and the case of Kepler–62 e and Kepler–62 f. *ApJ*, 775, L47 {30}
Kaltenegger L, Segura A, Mohanty S, 2011, Model spectra of the first potentially habitable super-Earth: GJ 581 d. *ApJ*, 733, 35 {5}
Kamiaka S, Masuda K, Xue Y, et al., 2015, Revisiting a gravity-darkened and precessing planetary system PTFO 8–8695: a spin-orbit non-synchronous case. *PASJ*, 67, 94 {39}
Kaminski A, Trifonov T, Caballero JA, et al., 2018, The CARMENES search for exoplanets around M dwarfs: a Neptune-mass planet traversing the habitable zone around HD 180617. *A&A*, 618, A115 {12}
Kammer JA, Knutson HA, Howard AW, et al., 2014, A Spitzer search for transits of radial velocity detected super-Earths. *ApJ*, 781, 103 {5, 6, 11, 13}
Kammer JA, Knutson HA, Line MR, et al., 2015, Spitzer secondary eclipse observations of five cool gas giant planets and empirical trends in cool planet emission spectra. *ApJ*, 810, 118 {25, 42, 45, 46}
Kane SR, 2015, Stability of Earth-mass planets in the Kepler–68 system. *ApJ*, 814, L9 {31}
—, 2016, Resolving close encounters: stability in the HD 5319 and HD 7924 planetary systems. *ApJ*, 830, 105 {6}
—, 2017, Worlds without moons: exomoon constraints for compact planetary systems. *ApJ*, 839, L19 {40}
Kane SR, Barclay T, Gelino DM, 2013, A potential super-Venus in the Kepler–69 system. *ApJ*, 770, L20 {31}
Kane SR, Barclay T, Hartmann M, et al., 2015a, On the stellar companion to the exoplanet hosting star 30 Ari B. *ApJ*, 815, 32 {16}
Kane SR, Boyajian TS, Henry GW, et al., 2015b, A comprehensive characterisation of the 70 Vir planetary system. *ApJ*, 806, 60 {4}
Kane SR, Dragomir D, Ciardi DR, et al., 2011a, Stellar variability of the exoplanet hosting star HD 63454. *ApJ*, 737, 58 {8}
Kane SR, Gelino DM, 2010, Photometric phase variations of long-period eccentric planets. *ApJ*, 724, 818–826 {7, 9, 25}
—, 2011, Detectability of exoplanet periastron passage in the infrared. *ApJ*, 741, 52 {7, 8, 11}
—, 2012a, Distinguishing between stellar and planetary companions with phase monitoring. *MNRAS*, 424, 779–788 {10, 11}
—, 2012b, The habitable zone and extreme planetary orbits. *Astrobiology*, 12, 940–945 {10, 17}
—, 2013, Decoupling phase variations in multi-planet systems. *ApJ*, 762, 129 {28, 29}
—, 2014, On the inclination and habitability of the HD 10180 system. *ApJ*, 792, 111 {6}

Kane SR, Gelino DM, Ciardi DR, et al., 2011b, Planetary phase variations of the 55 Cnc system. *ApJ*, 740, 61 {16}

Kane SR, Gelino DM, Turnbull MC, 2017a, On the orbital inclination of Proxima Cen b. *AJ*, 153, 52 {2}

Kane SR, Henry GW, Dragomir D, et al., 2011c, Revised orbit and transit exclusion for HD 114762 b. *ApJ*, 735, L41 {10}

Kane SR, Hinkel NR, 2013, On the habitable zones of circumbinary planetary systems. *ApJ*, 762, 7 {28, 29, 30}

Kane SR, Horner J, von Braun K, 2012, Cyclic transit probabilities of long-period eccentric planets due to periastron precession. *ApJ*, 757, 105 {9, 10, 12}

Kane SR, Howard AW, Pilyavsky G, et al., 2011d, Improved orbital parameters and transit monitoring for HD 156846 b. *ApJ*, 733, 28 {11}

Kane SR, Howell SB, Horch EP, et al., 2014, Limits on stellar companions to exoplanet host stars with eccentric planets. *ApJ*, 785, 93 {6, 11}

Kane SR, Raymond SN, 2014, Orbital dynamics of multi-planet systems with eccentricity diversity. *ApJ*, 784, 104 {7, 9, 11}

Kane SR, Reffert S, Henry GW, et al., 2010, On the transit potential of the planet orbiting ι Dra. *ApJ*, 720, 1644–1649 {13}

Kane SR, Thirumalachari B, Henry GW, et al., 2016a, Stellar activity and exclusion of the outer planet in the HD 99492 system. *ApJ*, 820, L5 {10}

Kane SR, Torres SM, 2017, Obliquity and eccentricity constraints for terrestrial exoplanets. *AJ*, 154, 204 {2, 4, 33, 37}

Kane SR, von Braun K, Henry GW, et al., 2017b, Characterisation of the Wolf 1061 planetary system. *ApJ*, 835, 200 {4}

Kane SR, Wittenmyer RA, Hinkel NR, et al., 2016b, Evidence for reflected light from the most eccentric exoplanet known, HD 20782. *ApJ*, 821, 65 {7}

Kataria T, Showman AP, Fortney JJ, et al., 2014, The atmospheric circulation of the super Earth GJ 1214 b: dependence on composition and metallicity. *ApJ*, 785, 92 {23}

—, 2015, The atmospheric circulation of the hot Jupiter WASP–43 b: comparing three-dimensional models to spectrophotometric data. *ApJ*, 801, 86 {45}

Kataria T, Simon M, 2010, Detectability of exoplanets in the β Pic moving group with the Gemini Planet Imager. *AJ*, 140, 206–214 {52}

Kataria T, Sing DK, Lewis NK, et al., 2016, The atmospheric circulation of a nine-hot-Jupiter sample: probing circulation and chemistry over a wide phase space. *ApJ*, 821, 9 {19, 21, 23, 24, 42, 43, 44, 45}

Katz JI, 2017, Can dips of Boyajian's star be explained by circumsolar rings? *MNRAS*, 471, 3680–3685 {36}

—, 2018, Why is interstellar object Oumuamua rocky, tumbling and possibly very prolate? *MNRAS*, 478, L95–L98 {55}

Kawahara H, Hirano T, Kurosaki K, et al., 2013, Star spots-transit depth relation of the evaporating planet candidate KIC–12557548 b. *ApJ*, 776, L6 {36}

Keating D, Cowan NB, 2017, Revisiting the energy budget of WASP–43 b: enhanced day-night heat transport. *ApJ*, 849, L5 {45}

Kedziora-Chudczer L, Zhou G, Bailey J, et al., 2018, Secondary eclipses of WASP–18 b: near infrared observations with the Anglo Australian Telescope, the Magellan Clay Telescope and the LCOGT network. *MNRAS* {44}

Kempton EMR, Bean JL, Parmentier V, 2017, An observational diagnostic for distinguishing between clouds and haze in hot exoplanet atmospheres. *ApJ*, 845, L20 {47}

Kennedy GM, 2018, Exocomet orbit fitting: accelerating coma absorption during transits of β Pic. *MNRAS*, 479, 1997–2006 {52}

Kennedy GM, Matrà L, Marmier M, et al., 2015, Kuiper belt structure around nearby super-Earth host stars. *MNRAS*, 449, 3121–3136 {4, 7, 8}

Kennedy GM, Wyatt MC, Bryden G, et al., 2013, Star-planet-debris disk alignment in the HD 82943 system: is planetary system coplanarity actually the norm? *MNRAS*, 436, 898–903 {9}

Kennedy GM, Wyatt MC, Kalas P, et al., 2014, Discovery of the Fomalhaut C debris disk. *MNRAS*, 438, L96–L100 {51}

Kenworthy MA, Lacour S, Kraus A, et al., 2015, Mass and period limits on the ringed companion transiting the young star 1SWASP J1407. *MNRAS*, 446, 411–427 {41}

Kenworthy MA, Mamajek EE, 2015, Modeling giant extrasolar ring systems in eclipse and the case of 1SWASP J1407 b: sculpting by exomoons? *ApJ*, 800, 126 {41}

Kenworthy MA, Meshkat T, Quanz SP, et al., 2013, Coronagraphic observations of Fomalhaut at solar system scales. *ApJ*, 764, 7 {51}

Kenyon SJ, Bromley BC, 2015, Collisional cascade calculations for irregular satellite swarms in Fomalhaut b. *ApJ*, 811, 60 {51}

Kenyon SJ, Currie T, Bromley BC, 2014, Fomalhaut b as a cloud of dust: testing aspects of planet formation theory. *ApJ*, 786, 70 {51}

Kervella P, Thévenin F, Lovis C, 2017, Proxima's orbit around α Cen. *A&A*, 598, L7 {2}

Khalafinejad S, Salz M, Cubillos PE, et al., 2018, The atmosphere of WASP–17 b: optical high-resolution transmission spectroscopy. *A&A*, 618, A98 {43}

Khalafinejad S, von Essen C, Hoeijmakers HJ, et al., 2017, Exoplanetary atmospheric sodium revealed by orbital motion: narrow-band transmission spectroscopy of HD 189733 b with UVES. *A&A*, 598, A131 {19}

Khodachenko ML, Shaikhislamov IF, Lammer H, et al., 2015, Atmosphere expansion and mass loss of close-orbit giant exoplanets heated by stellar XUV. II. Effects of planetary magnetic field; structuring of inner magnetosphere. *ApJ*, 813, 50 {21}

—, 2017, Ly-α absorption at transits of HD 209458 b: a comparative study of various mechanisms under different conditions. *ApJ*, 847, 126 {21}

Kiefer F, Lecavelier des Etangs A, Boissier J, et al., 2014, Two families of exocomets in the β Pic system. *Nature*, 514, 462–464 {52}

Kiefer F, Lecavelier des Étangs A, Vidal-Madjar A, et al., 2017, Detection of a repeated transit signature in the light curve of the enigma star KIC–8462852: a possible 928-day period. *A&A*, 608, A132 {36}

Kilpatrick BM, Cubillos PE, Stevenson KB, et al., 2018, Community targets of JWST's early release science programme: evaluation of WASP–63 b. *AJ*, 156, 103 {46}

Kilpatrick BM, Lewis NK, Kataria T, et al., 2017, Spitzer secondary eclipse depths with multiple intrapixel sensitivity correction methods observations of WASP–13 b, WASP–15 b, WASP–16 b, WASP–62 b, and HAT–P–22 b. *AJ*, 153, 22 {25, 43, 46}

Kim KM, Mkrtichian DE, Lee BC, et al., 2006, Precise radial velocities with BOES: detection of low-amplitude pulsations in the K-giant α Ari. *A&A*, 454, 839–844 {1}

King JR, Deliyannis CP, Boesgaard AM, 1997a, The ^{9}Be abundances of α Cen A and B and the Sun: implications for stellar evolution and mixing. *ApJ*, 478, 778–786 {2}

King JR, Deliyannis CP, Hiltgen DD, et al., 1997b, Lithium abundances in the solar twins 16 Cyg A and B and the solar analogue α Cen A. *AJ*, 113, 1871–1883 {2, 3}

Kinoshita H, Nakai H, 2001, Stability of the GJ 876 planetary system. *PASJ*, 53, L25–L26 {5}

Kipping DM, 2010, Binning is sinning: morphological light curve distortions due to finite integration time. *MNRAS*, 408, 1758–1769 {40}

Kipping DM, Bakos GÁ, 2011a, An independent analysis of Kepler–4 b through Kepler–8 b. *ApJ*, 730, 50 {27}

—, 2011b, Analysis of Kepler's short-cadence photometry for TrES–2 b. *ApJ*, 733, 36 {40}

Kipping DM, Bakos GÁ, Hartman J, et al., 2010, HAT–P–24 b: an inflated hot Jupiter on a 3.36-day period transiting a hot, metal-poor star. *ApJ*, 725, 2017–2028 {25}

Kipping DM, Cameron C, Hartman JD, et al., 2017, No conclusive evidence for transits of Proxima Cen b in MOST photometry. *AJ*, 153, 93 {2}

Kipping DM, Forgan D, Hartman J, et al., 2013, The Hunt for Exomoons with Kepler (HEK). III. The first search for an exomoon around a habitable-zone planet. *ApJ*, 777, 134 {28}

Kipping DM, Hartman JD, Bakos GÁ, et al., 2011, HAT–P–31 b,c: a transiting, eccentric, hot Jupiter and a long-period, massive third body. *AJ*, 142, 95 {25}

Kipping DM, Huang X, Nesvorný D, et al., 2015, The possible moon of Kepler–90 g is a false positive. *ApJ*, 799, L14 {31}

Kipping DM, Nesvorný D, Buchhave LA, et al., 2014a, The Hunt for Exomoons with Kepler (HEK). IV. A search for moons around eight M dwarfs. *ApJ*, 784, 28 {32}

Kipping DM, Spiegel DS, 2011, Detection of visible light from the darkest world. *MNRAS*, 417, L88–L92 {40}

Kipping DM, Tinetti G, 2010, night-side pollution of exoplanet transit depths. *MNRAS*, 407, 2589–2598 {18}

Kipping DM, Torres G, Buchhave LA, et al., 2014b, Discovery of a transiting planet near the snow-line. *ApJ*, 795, 25 {34}

Kipping DM, Torres G, Henze C, et al., 2016, A transiting Jupiter analogue. *ApJ*, 820, 112 {32}

Kirk J, Wheatley PJ, Louden T, et al., 2016, Transmission spectroscopy of the inflated exoplanet WASP–52 b, and evidence for a bright region on the stellar surface. *MNRAS*, 463, 2922–2931 {46}

—, 2017, Rayleigh scattering in the transmission spectrum of HAT–P–18 b. *MNRAS*, 468, 3907–3916 {25}

—, 2018, LRG–BEASTS. III. Ground-based transmission spectrum of the gas giant orbiting the cool dwarf WASP–80. *MNRAS*, 474, 876–885 {46}

Kiseleva-Eggleton L, Bois E, Rambaux N, et al., 2002, Global dynamics and stability limits for planetary systems around HD 12661, HD 38529, HD 37124, and HD 160691. *ApJ*, 578, L145–L148 {1, 7, 8}

Kislyakova KG, Johnstone CP, Odert P, et al., 2014, Stellar wind interaction and pick-up ion escape of the Kepler–11 super-Earths. *A&A*, 562, A116 {28}

Kislyakova KG, Pilat-Lohinger E, Funk B, et al., 2016, On the ultraviolet anomalies of the WASP–12 and HD 189733 systems: Trojan satellites as a plasma source. *MNRAS*, 461, 988–999 {19, 43}

Kitzmann D, Heng K, Rimmer PB, et al., 2018, The peculiar atmospheric chemistry of KELT–9 b. *ApJ*, 863, 183 {27}

Kjeldsen H, Bedding TR, Butler RP, et al., 2005, Solar-like oscillations in α Cen B. *ApJ*, 635, 1281–1290 {2}

Kjurkchieva D, Dimitrov D, Ibryamov S, 2016, Solution of newly observed transit of the exoplanet HAT–P–24B: no TTV and TDV signals. *Bulgarian Astronomical Journal*, 24, 101 {25}

Kjurkchieva D, Petrov N, Ibryamov S, et al., 2018, New observations and transit solutions of the exoplanets HAT–P–53 b and XO–5 b. *Serbian Astronomical Journal*, 196, 15–20 {26, 48}

Kjurkchieva D, Petrov N, Popov V, et al., 2015, Observations of transits of the southern exoplanets WASP–4 b and WASP–46 b by using a 0.4-m telescope. *Bulgarian Astronomical Journal*, 22, 21 {42, 45}

Kjurkchieva DP, Popov VA, Petrov NI, 2017, Observations and modeling of the transiting exoplanets XO–2 b, HAT–P–18 b, and WASP–80 b. *Serbian Astronomical Journal*, 195, 41–46 {25, 46, 48}

Kley W, Haghighipour N, 2014, Modeling circumbinary planets: the case of Kepler–38. *A&A*, 564, A72 {29}

—, 2015, Evolution of circumbinary planets around eccentric binaries: the case of Kepler–34. *A&A*, 581, A20 {29}

Kley W, Lee MH, Murray N, et al., 2005, Modeling the resonant planetary system GJ 876. *A&A*, 437, 727–742 {5}

Kley W, Nelson RP, 2008, Planet formation in binary stars: the case of γ Cep. *A&A*, 486, 617–628 {2}

Kley W, Peitz J, Bryden G, 2004, Evolution of planetary systems in resonance. *A&A*, 414, 735–747 {5, 9, 16}

Klocová T, Czesla S, Khalafinejad S, et al., 2017, Time-resolved UVES observations of a stellar flare on the planet host HD 189733 during primary transit. *A&A*, 607, A66 {19}

Knight MM, Protopapa S, Kelley MSP, et al., 2017, On the rotation period and shape of the hyperbolic asteroid Oumuamua from its lightcurve. *ApJ*, 851, L31 {54}

Knutson HA, Benneke B, Deming D, et al., 2014a, A featureless transmission spectrum for the Neptune-mass exoplanet GJ 436 b. *Nature*, 505, 66–68 {17}

Knutson HA, Charbonneau D, Allen LE, et al., 2007a, A map of the day-night contrast of the extrasolar planet HD 189733 b. *Nature*, 447, 183–186 {18}

—, 2008, The 3.6-8.0 μm broad-band emission spectrum of HD 209458 b: evidence for an atmospheric temperature inversion. *ApJ*, 673, 526–531 {20}

Published by Cambridge University Press, ISBN 9781108419772

Knutson HA, Charbonneau D, Burrows A, et al., 2009a, Detection of a temperature inversion in the broad-band infrared emission spectrum of TrES–4. *ApJ*, 691, 866–874 {41}

Knutson HA, Charbonneau D, Cowan NB, et al., 2009b, The 8 μm phase variation of the hot Saturn HD 149026 b. *ApJ*, 703, 769–784 {18}

—, 2009c, Multiwavelength constraints on the day-night circulation patterns of HD 189733 b. *ApJ*, 690, 822–836 {18}

Knutson HA, Charbonneau D, Deming D, et al., 2007b, A ground-based search for thermal emission from the exoplanet TrES–1. *PASP*, 119, 616–622 {40}

Knutson HA, Charbonneau D, Noyes RW, et al., 2007c, Using stellar limb-darkening to refine the properties of HD 209458 b. *ApJ*, 655, 564–575 {20}

Knutson HA, Dragomir D, Kreidberg L, et al., 2014b, HST near-infrared transmission spectroscopy of the super-Earth HD 97658 b. *ApJ*, 794, 155 {17}

Knutson HA, Fulton BJ, Montet BT, et al., 2014c, Friends of hot Jupiters. I. A radial velocity search for massive, long-period companions to close-in gas giant planets. *ApJ*, 785, 126 {25, 42, 48}

Knutson HA, Lewis N, Fortney JJ, et al., 2012, 3.6 and 4.5 μm phase curves and evidence for non-equilibrium chemistry in the atmosphere of exoplanet HD 189733 b. *ApJ*, 754, 22 {18}

Knutson HA, Madhusudhan N, Cowan NB, et al., 2011, A Spitzer transmission spectrum for the exoplanet GJ 436 b: evidence for stellar variability, and constraints on day-side flux variations. *ApJ*, 735, 27 {16}

Koch D, Borucki WJ, Rowe JF, et al., 2010, Discovery of the transiting planet Kepler–5 b. *ApJ*, 713, L131–L135 {27}

Koen C, 2015, Multicolour time series photometry of the T Tauri star CVSO 30. *MNRAS*, 450, 3991–3998 {39}

Kohl S, Salz M, Czesla S, et al., 2018, HD 189733 b: bow shock or no shock? *A&A*, 619, A96 {19}

Komacek TD, Youdin AN, 2017, Structure and evolution of internally heated hot Jupiters. *ApJ*, 844, 94 {21}

Konacki M, Torres G, Jha S, et al., 2003, An extrasolar planet that transits the disk of its parent star. *Nature*, 421, 507–509 {39}

Konacki M, Torres G, Sasselov DD, et al., 2004, The transiting extrasolar giant planet around the star OGLE–TR–113. *ApJ*, 609, L37–L40 {39}

—, 2005, A transiting extrasolar giant planet around the star OGLE–TR–10. *ApJ*, 624, 372–377 {39}

Kong D, Liao X, Zhang K, et al., 2014, The shape, internal structure and gravity of the fast spinner β Pic b. *MNRAS*, 445, L26–L30 {52}

Konopacky QM, Barman TS, Macintosh BA, et al., 2013, Detection of CO and H_2O absorption lines in an exoplanet atmosphere. *Science*, 339, 1398–1401 {53}

Konopacky QM, Ghez AM, Barman TS, et al., 2010, High-precision dynamical masses of very low mass binaries. *ApJ*, 711, 1087 {54}

Konopacky QM, Marois C, Macintosh BA, et al., 2016a, Astrometric monitoring of the HR 8799 planets: orbit constraints from self-consistent measurements. *AJ*, 152, 28 {53}

Konopacky QM, Rameau J, Duchêne G, et al., 2016b, Discovery of a substellar companion to the nearby debris disk host HR 2562. *ApJ*, 829, L4 {53}

Kopp A, Schilp S, Preusse S, 2011, Magnetohydrodynamic simulations of the magnetic interaction of hot Jupiters with their host stars: a numerical experiment. *ApJ*, 729, 116 {1, 12}

Kopparapu Rk, Kasting JF, Zahnle KJ, 2012, A photochemical model for the carbon-rich planet WASP–12 b. *ApJ*, 745, 77 {42}

Kopparapu RK, Raymond SN, Barnes R, 2009, Stability of additional planets in and around the habitable zone of the HD 47186 planetary system. *ApJ*, 695, L181–L184 {8}

Kopparla P, Natraj V, Crisp D, et al., 2018, Observing oceans in tightly packed planetary systems: perspectives from polarisation modeling of the TRAPPIST–1 system. *AJ*, 156, 143 {40}

Kopparla P, Natraj V, Zhang X, et al., 2016, A multiple scattering polarised radiative transfer model: application to HD 189733 b. *ApJ*, 817, 32 {19}

Koppenhoefer J, Saglia RP, Fossati L, et al., 2013, A hot Jupiter transiting a mid-K dwarf found in the pre-OmegaCam Transit Survey. *MNRAS*, 435, 3133–3147 {39}

Koriski S, Zucker S, 2011, On the ages of planetary systems with mean-motion resonances. *ApJ*, 741, L23 {4}

Korzennik SG, Brown TM, Fischer DA, et al., 2000, A high-eccentricity low-mass companion to HD 89744. *ApJ*, 533, L147–L150 {9}

Koshimoto N, Shvartzvald Y, Bennett DP, et al., 2017a, MOA–2016–BLG–227L b: a massive planet characterised by combining light-curve analysis and Keck AO imaging. *AJ*, 154, 3 {49}

Koshimoto N, Udalski A, Beaulieu JP, et al., 2017b, OGLE–2012–BLG–0950L b: the first planet mass measurement from only microlens parallax and lens flux. *AJ*, 153, 1 {50}

Koshimoto N, Udalski A, Sumi T, et al., 2014, OGLE–2008–BLG–355L b: a massive planet around a late-type star. *ApJ*, 788, 128 {50}

Koskinen TT, Aylward AD, Miller S, 2009, The upper atmosphere of HD 17156 b. *ApJ*, 693, 868–885 {17}

Koskinen TT, Harris MJ, Yelle RV, et al., 2013a, The escape of heavy atoms from the ionosphere of HD 209458 b. I. A photochemical–dynamical model of the thermosphere. *Icarus*, 226, 1678–1694 {20}

Koskinen TT, Lavvas P, Harris MJ, et al., 2014, Thermal escape from extrasolar giant planets. *Phil. Trans. Soc. London A*, 372, 30089 {20}

Koskinen TT, Yelle RV, Harris MJ, et al., 2013b, The escape of heavy atoms from the ionosphere of HD 209458 b. II. Interpretation of the observations. *Icarus*, 226, 1695–1708 {20}

Koskinen TT, Yelle RV, Lavvas P, et al., 2010, Characterising the thermosphere of HD 209458 b with ultraviolet transit observations. *ApJ*, 723, 116–128 {20}

Kostogryz NM, Yakobchuk TM, Morozhenko OV, et al., 2011, Polarimetric study of transiting extrasolar planets. *MNRAS*, 415, 695–700 {18, 41, 42, 44}

Kostov VB, McCullough PR, Carter JA, et al., 2014, Kepler–413 b: a slightly misaligned, Neptune-size transiting circumbinary planet. *ApJ*, 784, 14 {34}

Kostov VB, McCullough PR, Hinse TC, et al., 2013, A gas giant circumbinary planet transiting an evolved F star primary of the eclipsing binary KIC–4862625, and the independent discovery of two transiting planets in Kepler–47. *ApJ*, 770, 52 {30}

Kostov VB, Moore K, Tamayo D, et al., 2016a, Tatooine's future: the eccentric response of Kepler's circumbinary planets to common-envelope evolution of their host stars. *ApJ*, 832, 183 {29, 30, 31, 36}

Kostov VB, Orosz JA, Welsh WF, et al., 2016b, Kepler–1647 b: the largest and longest-period Kepler transiting circumbinary planet. *ApJ*, 827, 86 {36}

Kovács G, Bakos GÁ, Hartman JD, et al., 2010, HAT–P–15 b: a 10.9-day extrasolar planet transiting a solar-type star. *ApJ*, 724, 866–877 {25}

Kovács G, Bakos GÁ, Torres G, et al., 2007, HAT–P–4 b: a metal-rich low-density transiting hot Jupiter. *ApJ*, 670, L41–L44 {24}

Kovács G, Hartman JD, Bakos GÁ, et al., 2014, Stellar rotational periods in the planet hosting open cluster Praesepe. *MNRAS*, 442, 2081–2093 {14}

Kovács G, Kovács T, Hartman JD, et al., 2013, Comprehensive time series analysis of the transiting extrasolar planet WASP–33 b. *A&A*, 553, A44 {44}

Kral Q, Wyatt M, Carswell RF, et al., 2016, A self-consistent model for the evolution of the gas produced in the debris disk of β Pic. *MNRAS*, 461, 845–858 {52}

Kral Q, Wyatt MC, Triaud AHMJ, et al., 2018, Cometary impactors on the TRAPPIST–1 planets can destroy all planetary atmospheres and rebuild secondary atmospheres on planets f, g, and h. *MNRAS*, 479, 2649–2672 {40}

Kramm U, Nettelmann N, Fortney JJ, et al., 2012, Constraining the interior of extrasolar giant planets with the tidal Love number k_2 using the example of HAT–P–13 b. *A&A*, 538, A146 {25}

Kramm U, Nettelmann N, Redmer R, et al., 2011, On the degeneracy of the tidal Love number k_2 in multi-layer planetary models: application to Saturn and GJ 436 b. *A&A*, 528, A18 {16}

Kratter KM, Shannon A, 2014, Planet packing in circumbinary systems. *MNRAS*, 437, 3727–3735 {30}

Kraus AL, Ireland MJ, 2012, LkCa 15: a young exoplanet caught at formation? *ApJ*, 745, 5 {54}

Kraus AL, Ireland MJ, Cieza LA, et al., 2014, Three wide planetary-mass companions to FW Tau, ROXs 12, and ROXs 42B. *ApJ*, 781, 20 {54}

Kreidberg L, Bean JL, Désert JM, et al., 2014a, A precise water abundance measurement for the hot Jupiter WASP–43 b. *ApJ*, 793, L27 {45}

—, 2014b, Clouds in the atmosphere of the super-Earth exoplanet GJ 1214 b. *Nature*, 505, 69–72 {23}

Kreidberg L, Line MR, Bean JL, et al., 2015, A detection of H_2O in the transmission spectrum of the hot Jupiter WASP–12 b and implications for its atmospheric composition. *ApJ*, 814, 66 {43}

Kreidberg L, Line MR, Parmentier V, et al., 2018a, Global climate and atmospheric composition of the ultra-hot Jupiter WASP–103 b from HST and Spitzer phase curve observations. *AJ*, 156, 17 {47}

Kreidberg L, Line MR, Thorngren D, et al., 2018b, Water, high-altitude condensates, and possible methane depletion in the atmosphere of the warm super-Neptune WASP–107 b. *ApJ*, 858, L6 {47}

Kreidberg L, Loeb A, 2016, Prospects for characterising the atmosphere of Proxima Cen b. *ApJ*, 832, L12 {2}

Krejčová T, Budaj J, Krushevska V, 2010, Photometric observations of transiting extrasolar planet WASP–10 b. *Contr. Astron. Obs. Skalnate Pleso*, 40, 77–82 {42}

Krick JE, Ingalls J, Carey S, et al., 2016, Spitzer–IRAC sparsely sampled phase curve of the exoplanet Wasp–14B. *ApJ*, 824, 27 {43}

Krijt S, Bowling TJ, Lyons RJ, et al., 2017, Fast litho-panspermia in the habitable zone of the TRAPPIST–1 system. *ApJ*, 839, L21 {40}

Krissansen-Totton J, Garland R, Irwin P, et al., 2018, Detectability of biosignatures in anoxic atmospheres with the JWST: a TRAPPIST–1 e case study. *AJ*, 156, 114 {40}

Krivov AV, Reidemeister M, Fiedler S, et al., 2011, Debris disk candidates in systems with transiting planets. *MNRAS*, 418, L15–L19 {22, 24, 48}

Krzesinski J, 2015, Planetary candidates around the pulsating sdB star KIC–5807616 considered doubtful. *A&A*, 581, A7 {31}

Ksanfomality LV, 2004, On the nature of the object HD 209458 b: conclusions drawn from comparison of experimental and theoretical data. *Sol. Syst. Res.*, 38, 300–308 {20}

—, 2017, Some properties of the companions of KIC–8462852 based on Kepler data. *Astronomy Reports*, 61, 347–360 {36}

Ksanfomality LV, Tavrov AV, 2017, Heritage of the Kepler mission: special object KIC–8462852 and criticism of the cometary hypothesis. *Solar System Research*, 51, 422–435 {36}

Kubas D, Beaulieu JP, Bennett DP, et al., 2012, A frozen super-Earth orbiting a star at the bottom of the main sequence. *A&A*, 540, A78 {49}

Kubas D, Cassan A, Dominik M, et al., 2008, Limits on additional planetary companions to OGLE–2005–BLG–390L. *A&A*, 483, 317–324 {50}

Kubyshkina D, Fossati L, Erkaev NV, et al., 2018, Grid of upper atmosphere models for $1-40 M_\oplus$ planets: application to CoRoT-7 b and HD 219134 b,c. *A&A*, 619, A151 {21, 22}

Kuhn RB, Rodriguez JE, Collins KA, et al., 2016, KELT–10 b: the first transiting exoplanet from the KELT–South survey: a hot sub-Jupiter transiting a $V = 10.7$ early G-star. *MNRAS*, 459, 4281–4298 {27}

Kulow JR, France K, Linsky J, et al., 2014, Ly-α transit spectroscopy and the neutral hydrogen tail of the hot Neptune GJ 436 b. *ApJ*, 786, 132 {17}

Kundurthy P, Agol E, Becker AC, et al., 2011, APOSTLE observations of GJ 1214 b: system parameters and evidence for stellar activity. *ApJ*, 731, 123 {23}

Kundurthy P, Barnes R, Becker AC, et al., 2013a, APOSTLE: long-term transit monitoring and stability analysis of XO–2 b. *ApJ*, 770, 36 {48}

Kundurthy P, Becker AC, Agol E, et al., 2013b, APOSTLE: 11 transit observations of TrES–3 b. *ApJ*, 764, 8 {41}

Kunimoto M, Matthews JM, Rowe JF, et al., 2018, Lifting transit signals from the Kepler noise floor. I. Discovery of a warm Neptune. *AJ*, 155, 43 {32}

Kunitomo M, Ikoma M, Sato B, et al., 2011, Planet engulfment by $1.5-3 M_\odot$ red giants.

ApJ, 737, 66 {8}

Kurokawa H, Kaltenegger L, 2013, Atmospheric mass-loss and evolution of short-period exoplanets: the examples of CoRoT–7 b and Kepler–10 b. *MNRAS*, 433, 3239–3245 {22, 27}

Kürster M, Endl M, Els S, et al., 2000, An extrasolar giant planet in an Earth-like orbit: precise radial velocities of the young star ι Hor. *A&A*, 353, L33–L36 {14}

Kürster M, Trifonov T, Reffert S, et al., 2015, Disentangling 2:1 resonant radial velocity orbits from eccentric ones and a case study for HD 27894. *A&A*, 577, A103 {7}

Kushniruk IO, Pavlenko YV, Jenkins JS, et al., 2014, Abundances in the atmosphere of the metal-rich planet-host star HD 77338. *Advances in Astronomy and Space Physics*, 4, 20–24 {9}

Kuznyetsova Y, Krushevska V, Andreev M, et al., 2014, Photometric researches of chromospheric activity variations for star systems with exoplanets using small telescopes. *Contributions of the Astronomical Observatory Skalnate Pleso*, 43, 408–408 {8, 11, 13, 39}

Kuzuhara M, Tamura M, Ishii M, et al., 2011, The widest-separation substellar companion candidate to a binary T Tauri star. *AJ*, 141, 119 {54}

Kuzuhara M, Tamura M, Kudo T, et al., 2013, Direct imaging of a cold Jovian exoplanet in orbit around the Sun-like star GJ 504. *ApJ*, 774, 11 {52}

Kwiecinski JA, Krause AL, Van Gorder RA, 2018, Effects of tidal torques on Oumuamua. *Icarus*, 311, 170–174 {55}

Labadie-Bartz J, Rodriguez JE, Stassun KG, et al., 2018, KELT–22A b: a massive hot Jupiter transiting a near solar twin. *ArXiv e-prints* {27}

Lachapelle FR, Lafrenière D, Gagné J, et al., 2015, Characterisation of low-mass, wide-separation substellar companions to stars in Upper Scorpius: near-infrared photometry and spectroscopy. *ApJ*, 802, 61 {53, 54}

Lafrenière D, Jayawardhana R, Janson M, et al., 2011, Discovery of a $23M_J$ brown dwarf orbiting 700 au from the massive star HIP 78530 in Upper Scorpius. *ApJ*, 730, 42 {53}

Lafrenière D, Jayawardhana R, van Kerkwijk MH, 2008, Direct imaging and spectroscopy of a planetary-mass candidate companion to a young solar analogue. *ApJ*, 689, L153–L156 {54}

—, 2010, The directly imaged planet around the young solar analogue 1RXS J160929.1–210524: confirmation of common proper motion, temperature, and mass. *ApJ*, 719, 497–504 {54}

Lafrenière D, Marois C, Doyon R, et al., 2009, HST–NICMOS detection of HR 8799 b in 1998. *ApJ*, 694, L148–L152 {53}

Lagrange AM, Beust H, Udry S, et al., 2006, New constrains on GJ 86B: VLT near infrared coronagraphic imaging survey of planetary hosts. *A&A*, 459, 955–963 {4}

Lagrange AM, Boccaletti A, Milli J, et al., 2012a, The position of β Pic b relative to the debris disk. *A&A*, 542, A40 {52}

Lagrange AM, Bonnefoy M, Chauvin G, et al., 2010, A giant planet imaged in the disk of the young star β Pic. *Science*, 329, 57–58 {52}

Lagrange AM, De Bondt K, Meunier N, et al., 2012b, Constraints on planets around β Pic with HARPS. *A&A*, 542, A18 {52}

Lagrange AM, Gratadour D, Chauvin G, et al., 2009a, A probable giant planet imaged in the β Pic disk: VLT–NACO deep L'-band imaging. *A&A*, 493, L21–L25 {52}

Lagrange AM, Kasper M, Boccaletti A, et al., 2009b, Constraining the orbit of the possible companion to β Pic: new deep imaging. *A&A*, 506, 927–934 {52}

Lagrange AM, Keppler M, Beust H, et al., 2017, Discovery of a stellar companion to HD 131399A. *A&A*, 608, L9 {53}

Lagrange AM, Keppler M, Meunier N, et al., 2018, Full exploration of the giant planet population around β Pic. *A&A*, 612, A108 {52}

Lagrange AM, Langlois M, Gratton R, et al., 2016, A narrow, edge-on disk resolved around HD 106906 with SPHERE. *A&A*, 586, L8 {53}

Lai D, Helling C, van den Heuvel EPJ, 2010, Mass transfer, transiting stream, and magnetopause in close-in exoplanetary systems with applications to WASP–12. *ApJ*, 721, 923–928 {42}

Lalitha S, Poppenhaeger K, Singh KP, et al., 2014, X-ray emission from the super-Earth host GJ 1214. *ApJ*, 790, L11 {23}

Lam KWF, Faedi F, Brown DJA, et al., 2017, From dense hot Jupiter to low-density Neptune: the discovery of WASP–127 b, WASP–136 b, and WASP–138 b. *A&A*, 599, A3 {47}

Lam KWF, Santerne A, Sousa SG, et al., 2018, K2–265 b: a transiting rocky super-Earth. *A&A*, 620, A77 {38}

Lammer H, Erkaev NV, Fossati L, et al., 2016, Identifying the 'true' radius of the hot sub-Neptune CoRoT–24 b by mass-loss modelling. *MNRAS*, 461, L62–L66 {22}

Lammer H, Erkaev NV, Odert P, et al., 2013, Probing the blow-off criteria of hydrogen-rich super-Earths. *MNRAS*, 430, 1247–1256 {16, 23, 27}

Langford SV, Wyithe JSB, Turner EL, et al., 2011, A comparison of spectroscopic methods for detecting the starlight scattered by transiting hot Jupiters, with an application to Subaru data for HD 209458 b and HD 189733 b. *MNRAS*, 415, 673–686 {18, 20}

Langton J, Laughlin G, 2008, Persistent circumpolar vortices on the extrasolar giant planet HD 37605 b. *A&A*, 483, L25–L28 {7}

Lanotte AA, Gillon M, Demory BO, et al., 2014, A global analysis of Spitzer and new HARPS data confirms the loneliness and metal-richness of GJ 436 b. *A&A*, 572, A73 {17}

Lanza AF, 2008, Hot Jupiters and stellar magnetic activity. *A&A*, 487, 1163–1170 {1, 2, 12, 18}

—, 2011, Searching for star–planet magnetic interaction in CoRoT observations. *Ap&SS*, 336, 303–313 {21, 22}

—, 2018, Close-by planets and flares in their host stars. *A&A*, 610, A81 {12, 17, 19}

Lanza AF, Aigrain S, Messina S, et al., 2009a, Photospheric activity and rotation of the planet-hosting star CoRoT–4. *A&A*, 506, 255–262 {22}

Lanza AF, Boisse I, Bouchy F, et al., 2011a, Deriving the radial-velocity variations induced by stellar activity from high-precision photometry. Test on HD 189733 with simultaneous MOST/SOPHIE data. *A&A*, 533, A44 {18}

Lanza AF, Bonomo AS, Moutou C, et al., 2010, Photospheric activity, rotation, and radial velocity variations of the planet-hosting star CoRoT–7. *A&A*, 520, A53 {22}

Lanza AF, Bonomo AS, Pagano I, et al., 2011b, Photospheric activity, rotation, and star–planet interaction of the planet-hosting star CoRoT–6. *A&A*, 525, A14 {22}

Lanza AF, Damiani C, Gandolfi D, 2011c, Constraining tidal dissipation in F-type main-sequence stars: the case of CoRoT–11. *A&A*, 529, A50 {22}

Lanza AF, Pagano I, Leto G, et al., 2009b, Magnetic activity in the photosphere of CoRoT–2. Active longitudes and short-term spot cycle in a young Sun-like star. *A&A*, 493, 193–200 {21}

Laskar J, 2000, On the spacing of planetary systems. *Phys. Rev. Lett.*, 84, 3240–3243 {1}

Laskar J, Boué G, Correia ACM, 2012, Tidal dissipation in multi-planet systems: constraints on orbit fitting. *A&A*, 538, A105 {6, 20}

Laskar J, Correia ACM, 2009, HD 60532, a planetary system in a 3:1 mean motion resonance. *A&A*, 496, L5–L8 {8}

Laskar J, Petit AC, 2017, AMD-stability and the classification of planetary systems. *A&A*, 605, A72 {5, 6, 11, 16}

Latham DW, Bakos GÁ, Torres G, et al., 2009, Discovery of a transiting planet and eight eclipsing binaries in HATNet field G205. *ApJ*, 704, 1107–1119 {24}

Latham DW, Borucki WJ, Koch DG, et al., 2010, Kepler–7 b: a transiting planet with unusually low density. *ApJ*, 713, L140–L144 {27}

Latham DW, Stefanik RP, Mazeh T, et al., 1989, The unseen companion of HD 114762: a probable brown dwarf. *Nature*, 339, 38–40 {10}

Laughlin G, Adams FC, 1999, Stability and chaos in the υ And planetary system. *ApJ*, 526, 881–889 {1}

Laughlin G, Butler RP, Fischer DA, et al., 2005a, The GJ 876 planetary system: a progress report. *ApJ*, 622, 1182–1190 {5}

Laughlin G, Chambers J, Fischer D, 2002, A dynamical analysis of the 47 UMa planetary system. *ApJ*, 579, 455–467 {4}

Laughlin G, Chambers JE, 2001, Short-term dynamical interactions among extrasolar planets. *ApJ*, 551, L109–L113 {5}

Laughlin G, Deming D, Langton J, et al., 2009, Rapid heating of the atmosphere of an extrasolar planet. *Nature*, 457, 562–564 {17}

Laughlin G, Marcy GW, Vogt SS, et al., 2005b, On the eccentricity of HD 209458 b. *ApJ*, 629, L121–L124 {20}

Lavie B, Ehrenreich D, Bourrier V, et al., 2017a, The long egress of GJ 436 b's giant exosphere. *A&A*, 605, L7 {17}

Lavie B, Mendonça JM, Mordasini C, et al., 2017b, HELIOS–Retrieval: an open-source, nested sampling atmospheric retrieval code, application to the HR 8799 exoplanets and inferred constraints for planet formation. *AJ*, 154, 91 {53}

Lavvas P, Koskinen T, 2017, Aerosol properties of the atmospheres of extrasolar giant planets. *ApJ*, 847, 32 {19, 21}

Lavvas P, Koskinen T, Yelle RV, 2014, Electron densities and alkali atoms in exoplanet atmospheres. *ApJ*, 796, 15 {20, 48}

Lawler SM, Di Francesco J, Kennedy GM, et al., 2014, The debris disk of solar analogue τ Cet: Herschel observations and dynamical simulations of the proposed multi-planet system. *MNRAS*, 444, 2665–2675 {3}

Lawler SM, Gladman B, 2012, Debris disks in Kepler exoplanet systems. *ApJ*, 752, 53 {30, 35}

Lawler SM, Greenstreet S, Gladman B, 2015, Fomalhaut b as a dust cloud: frequent collisions within the Fomalhaut disk. *ApJ*, 802, L20 {51}

Laws C, Gonzalez G, 2001, A differential spectroscopic analysis of 16 Cyg A and B. *ApJ*, 553, 405–409 {3}

Laws C, Gonzalez G, Walker KM, et al., 2003, Parent stars of extrasolar planets. VII. New abundance analyses of 30 systems. *AJ*, 125, 2664–2677 {7, 8}

Laymand M, Vauclair S, 2007, Asteroseismology of exoplanets host stars: the special case of ι Hor. *A&A*, 463, 657–662 {14}

Lazio TJW, Farrell WM, 2007, Magnetospheric emissions from the planet orbiting τ Boo: a multi-epoch search. *ApJ*, 668, 1182–1188 {2}

Lazio TJW, Shankland PD, Farrell WM, et al., 2010, Radio observations of HD 80606 near planetary periastron. *AJ*, 140, 1929–1933 {17}

Leão IC, Canto Martins BL, Alves S, et al., 2018, Incidence of planet candidates in open clusters and a planet confirmation. *A&A*, 620, A139 {14}

Le Bouquin J, Absil O, Benisty M, et al., 2009, The spin–orbit alignment of the Fomalhaut planetary system probed by optical long baseline interferometry. *A&A*, 498, L41–L44 {51}

Lebreton J, van Lieshout R, Augereau JC, et al., 2013, An interferometric study of the Fomalhaut inner debris disk. III. Detailed models of the exozodiacal disk and its origin. *A&A*, 555, A146 {51}

Lebreton Y, 2012, Ages of exoplanet host stars from asteroseismology: HD 17156, a case study. *ASP Conf. Ser.*, volume 462, 469 {17}

Lebreton Y, Goupil MJ, 2014, Asteroseismology for à la carte stellar age-dating and weighing: age and mass of the CoRoT exoplanet host HD 52265. *A&A*, 569, A21 {8}

Lecavelier des Etangs A, 2007, A diagram to determine the evaporation status of extrasolar planets. *A&A*, 461, 1185–1193 {5, 8, 16, 20}

—, 2010, Evaporation of extrasolar planets. *Bull. Astron. Soc. India*, 38, 137–145 {5, 18, 20, 22}

Lecavelier des Etangs A, Bourrier V, Wheatley PJ, et al., 2012, Temporal variations in the evaporating atmosphere of the exoplanet HD 189733 b. *A&A*, 543, L4 {18}

Lecavelier des Etangs A, Hébrard G, Blandin S, et al., 2017, Search for rings and satellites around the exoplanet CoRoT–9 b using Spitzer photometry. *A&A*, 603, A115 {22}

Lecavelier des Etangs A, Pont F, Vidal-Madjar A, et al., 2008a, Rayleigh scattering in the transit spectrum of HD 189733 b. *A&A*, 481, L83–L86 {18}

Lecavelier des Etangs A, Sirothia SK, Gopal-Krishna, et al., 2009, GMRT radio observations of the transiting extrasolar planet HD 189733 b at 244 and 614 MHz. *A&A*, 500, L51–L54 {18}

—, 2011, GMRT search for 150 MHz radio emission from the transiting extrasolar planets HD 189733 b and HD 209458 b. *A&A*, 533, A50 {18, 20}

—, 2013, Hint of 150 MHz radio emission from the Neptune-mass extrasolar transiting planet HAT–P–11 b. *A&A*, 552, A65 {24}

Lecavelier des Etangs A, Vidal-Madjar A, 2009, Is β Pic b the transiting planet of November 1981? *A&A*, 497, 557–562 {52}

—, 2016, The orbit of β Pic b as a transiting planet. *A&A*, 588, A60 {52}

Lecavelier des Etangs A, Vidal-Madjar A, Desert JM, 2008b, The origin of hydrogen around HD 209458 b. *Nature*, 456 {20}

Lecavelier des Etangs A, Vidal-Madjar A, Désert JM, et al., 2008c, Rayleigh scattering by H_2 in the extrasolar planet HD 209458 b. *A&A*, 485, 865–869 {20}

Lecavelier des Etangs A, Vidal-Madjar A, McConnell JC, et al., 2004, Atmospheric escape from hot Jupiters. *A&A*, 418, L1–L4 {20}

Leconte J, Chabrier G, Baraffe I, et al., 2010, Is tidal heating sufficient to explain bloated exoplanets? Consistent calculations accounting for finite initial eccentricity. *A&A*, 516, A64 {20}

Leconte J, Forget F, Charnay B, et al., 2013, 3d climate modeling of close-in land planets: circulation patterns, climate moist bistability, and habitability. *A&A*, 554, A69 {5, 9}

Lee BC, Han I, Park MG, 2013, Planetary companions orbiting M giants HD 208527 and HD 220074. *A&A*, 549, A2 {13}

Lee BC, Han I, Park MG, et al., 2012a, A planetary companion around the K giant ϵ CrB. *A&A*, 546, A5 {3}

—, 2014a, Planetary companions in K giants β Cnc, μ Leo, and β UMi. *A&A*, 566, A67 {3, 4}

Lee BC, Mkrtichian DE, Han I, et al., 2011a, A likely exoplanet orbiting the oscillating K-giant α Ari. *A&A*, 529, A134 {1}

—, 2012b, Detection of an exoplanet around the evolved K giant HD 66141. *A&A*, 548, A118 {8}

Lee BC, Park MG, Lee SM, et al., 2015a, A search for exoplanets around northern circumpolar stars. I. Four planets around HD 11755, HD 12648, HD 24064, and 8 UMi. *A&A*, 584, A79 {4, 7}

Lee BL, Ge J, Fleming SW, et al., 2011b, MARVELS–1 b: a short-period, brown dwarf desert candidate from the SDSS–III MARVELS planet search. *ApJ*, 728, 32–35 {14}

Lee CH, Chiang PS, 2018, Evidence that the planetary candidate CVSO 30 c is a background star from optical, seeing-limited data. *ApJ*, 852, L24 {39}

Lee G, Dobbs-Dixon I, Helling C, et al., 2016, Dynamic mineral clouds on HD 189733 b. I. 3d RHD with kinetic, non-equilibrium cloud formation. *A&A*, 594, A48 {19}

Lee G, Helling C, Dobbs-Dixon I, et al., 2015b, Modelling the local and global cloud formation on HD 189733 b. *A&A*, 580, A12 {19}

Lee GKH, Wood K, Dobbs-Dixon I, et al., 2017, Dynamic mineral clouds on HD 189733 b. II. Monte Carlo radiative transfer for 3d cloudy exoplanet atmospheres: combining scattering and emission spectra. *A&A*, 601, A22 {19}

Lee JM, Fletcher LN, Irwin PGJ, 2012c, Optimal estimation retrievals of the atmospheric structure and composition of HD 189733 b from secondary eclipse spectroscopy. *MNRAS*, 420, 170–182 {18}

Lee JM, Heng K, Irwin PGJ, 2014b, Atmospheric retrieval analysis of the directly imaged exoplanet HR 8799 b (Erratum to: 2013ApJ...778...97L). *ApJ*, 780, 190 {53}

Lee JM, Irwin PGJ, Fletcher LN, et al., 2014c, Constraining the atmospheric composition of the day–night terminators of HD 189733 b: atmospheric retrieval with aerosols. *ApJ*, 789, 14 {19}

Lee JW, Youn JH, Kim SL, et al., 2011c, Physical properties of the transiting planetary system TrES–3. *PASJ*, 63, 301–307 {41}

—, 2012d, The sub-Saturn mass transiting planet HAT–P–12 b. *AJ*, 143, 95 {24}

Lee MH, 2004, Diversity and origin of 2:1 orbital resonances in extrasolar planetary systems. *ApJ*, 611, 517–527 {5}

Lee MH, Butler RP, Fischer DA, et al., 2006, On the 2:1 orbital resonance in the HD 82943 planetary system. *ApJ*, 641, 1178–1187 {9}

Lee MH, Peale SJ, 2002, Dynamics and origin of the 2:1 orbital resonances of the GJ 876 planets. *ApJ*, 567, 596–609 {5}

Léger A, Grasset O, Fegley B, et al., 2011, The extreme physical properties of the CoRoT–7 b super-Earth. *Icarus*, 213, 1–11 {22}

Léger A, Rouan D, Schneider J, et al., 2009, Transiting exoplanets from the CoRoT space mission. VIII. CoRoT–7 b: the first super-Earth with measured radius. *A&A*, 506, 287–302 {22}

Leggett SK, Liu MC, Dupuy TJ, et al., 2014, Resolved spectroscopy of the T8.5 and Y0-0.5 binary WISEPC J121756.91+162640.2AB. *ApJ*, 780, 62 {54}

Lehmann H, Guenther E, Sebastian D, et al., 2015, Mass of WASP–33 b. *A&A*, 578, L4 {44}

Leigh C, Collier Cameron A, Horne K, et al., 2003a, A new upper limit on the reflected starlight from τ Boo b. *MNRAS*, 344, 1271–1282 {2}

Leigh C, Collier Cameron A, Udry S, et al., 2003b, A search for starlight reflected from HD 75289 b. *MNRAS*, 346, L16–L20 {9}

Leitzinger M, Odert P, Kulikov YN, et al., 2011, Could CoRoT–7 b and Kepler–10 b be remnants of evaporated gas or ice giants?. *Planet. Space Sci.*, 59, 1472–1481 {22, 27}

Lendl M, Afonso C, Koppenhoefer J, et al., 2010, New parameters and transit time studies for OGLE2–TR–L9 b. *A&A*, 522, A29 {39}

Lendl M, Anderson DR, Bonfanti A, et al., 2019, WASP–147 b, WASP–160B b, WASP–164 b, and WASP–165 b: two hot Saturns and two Jupiters, including two planets with metal-rich hosts. *MNRAS*, 482, 301–312 {47}

Lendl M, Anderson DR, Collier Cameron A, et al., 2012, WASP–42 b and WASP–49 b: two new transiting sub-Jupiters. *A&A*, 544, A72 {45}

Lendl M, Cubillos PE, Hagelberg J, et al., 2017a, Signs of strong Na and K absorption in the transmission spectrum of WASP–103 b. *A&A*, 606, A18 {47}

Lendl M, Delrez L, Gillon M, et al., 2016, FORS2 observes a multi-epoch transmission spectrum of the hot Saturn-mass exoplanet WASP–49 b. *A&A*, 587, A67 {45}

Lendl M, Ehrenreich D, Turner OD, et al., 2017b, Ground-based photometry of the 21-day Neptune HD 106315 c. *A&A*, 603, L5 {38}

Lendl M, Gillon M, Queloz D, et al., 2013, A photometric study of the hot exoplanet WASP–19 b. *A&A*, 552, A2 {44}

Lendl M, Triaud AHMJ, Anderson DR, et al., 2014, WASP–117 b: a 10-day-period Saturn in an eccentric and misaligned orbit. *A&A*, 568, A81 {47}

Lenz LF, Reiners A, Seifahrt A, et al., 2016, A CRIRES-search for $H_3{}^+$ emission from the hot Jupiter atmosphere of HD 209458 b. *A&A*, 589, A99 {21}

Lestrade JF, Matthews BC, Sibthorpe B, et al., 2012, A debris disk around the planet-hosting M-star GJ 581 spatially resolved with Herschel. *A&A*, 548, A86 {5}

Leung GCK, Lee MH, 2013, An analytic theory for the orbits of circumbinary planets. *ApJ*, 763, 107 {28, 29}

Lewis NK, Knutson HA, Showman AP, et al., 2013, Orbital variations of the eccentric giant HAT–P–2 b. *ApJ*, 766, 95 {23}

Lewis NK, Showman AP, Fortney JJ, et al., 2010, Atmospheric circulation of eccentric hot Neptune GJ 436 b. *ApJ*, 720, 344–356 {16}

—, 2014, Atmospheric circulation of eccentric hot Jupiter HAT–P–2 b. *ApJ*, 795, 150 {23}

Li D, Telesco CM, Wright CM, 2012, The mineralogy and structure of the inner debris disk of β Pic. *ApJ*, 759, 81 {52}

Li G, Naoz S, Valsecchi F, et al., 2014, The dynamics of the multi-planet system orbiting Kepler–56. *ApJ*, 794, 131 {30}

Li LS, 2012, Parameterised post-Newtonian orbital effects in extrasolar planets. *Ap&SS*, 341, 323–330 {8, 9, 11, 13, 17, 48}

Li SL, Miller N, Lin DNC, et al., 2010, WASP–12 b as a prolate, inflated and disrupting planet from tidal dissipation. *Nature*, 463, 1054–1056 {42}

Liang MC, Parkinson CD, Lee AYT, et al., 2003, Source of atomic hydrogen in the atmosphere of HD 209458 b. *ApJ*, 596, L247–L250 {19}

Libert A, Tsiganis K, 2009, Kozai resonance in extrasolar systems. *A&A*, 493, 677–686 {1, 7, 9, 11}

Libert AS, Henrard J, 2007, Analytical study of the proximity of exoplanetary systems to mean-motion resonances. *A&A*, 461, 759–763 {1, 7, 8, 9, 10, 11, 12, 13}

Libert AS, Sansottera M, 2013, On the extension of the Laplace–Lagrange secular theory to order two in the masses for extrasolar systems. *Cel. Mech. Dyn. Astron.*, 117, 149–168 {1, 6, 7, 9, 10, 11, 12}

Ligi R, Demangeon O, Barros S, et al., 2018, K2 targets observed with VLT–SPHERE: an M4-7 dwarf companion resolved around EPIC 206011496. *AJ*, 156, 182 {38}

Ligi R, Mourard D, Lagrange AM, et al., 2012, A new interferometric study of four exoplanet host stars: θ Cyg, 14 And, υ And and 42 Dra. *A&A*, 545, A5 {1, 3}

Lillo-Box J, Barrado D, Henning T, et al., 2014a, Radial velocity confirmation of Kepler–91 b: additional evidence of its planetary nature using the Calar Alto–CAFE instrument. *A&A*, 568, L1 {31}

Lillo-Box J, Barrado D, Moya A, et al., 2014b, Kepler–91 b: a planet at the end of its life: planet and giant host star properties via light-curve variations. *A&A*, 562, A109 {31}

Lillo-Box J, Barrado D, Santos NC, et al., 2015, Kepler–447 b: a hot-Jupiter with an extremely grazing transit. *A&A*, 577, A105 {35}

Lillo-Box J, Demangeon O, Santerne A, et al., 2016a, K2–30 b and K2–34 b: two inflated hot Jupiters around solar-type stars. *A&A*, 594, A50 {37}

Lillo-Box J, Leleu A, Parviainen H, et al., 2018, The TROY project: searching for co-orbital bodies to known planets. II. Multi-technique constraints on exo-Trojans in nine planetary systems. *A&A*, 618, A42 {17, 25, 26, 41, 42, 45, 46}

Lillo-Box J, Ribas A, Barrado D, et al., 2016b, Search for light curve modulations among Kepler candidates: three very low-mass transiting companions. *A&A*, 592, A32 {35, 36}

Lin DNC, Bodenheimer P, Richardson DC, 1996, Orbital migration of the planetary companion of 51 Peg to its present location. *Nature*, 380, 606–607 {3}

Lincowski AP, Meadows VS, Crisp D, et al., 2018, Evolved climates and observational discriminants for the TRAPPIST–1 planetary system. *ApJ*, 867, 76 {40}

Line MR, Knutson H, Deming D, et al., 2013, A near-infrared transmission spectrum for the warm Saturn HAT–P–12 b. *ApJ*, 778, 183 {24}

Line MR, Knutson H, Wolf AS, et al., 2014, A systematic retrieval analysis of secondary eclipse spectra. II. A uniform analysis of nine planets and their C to O ratios. *ApJ*, 783, 70 {17, 18, 19, 41, 43, 44, 45}

Line MR, Liang MC, Yung YL, 2010, High-temperature photochemistry in the atmosphere of HD 189733 b. *ApJ*, 717, 496–502 {18}

Line MR, Parmentier V, 2016, The influence of nonuniform cloud cover on transit transmission spectra. *ApJ*, 820, 78 {19, 24}

Line MR, Stevenson KB, Bean J, et al., 2016, No thermal inversion and a solar water abundance for the hot Jupiter HD 209458 b from HST–WFC3 spectroscopy. *AJ*, 152, 203 {21}

Line MR, Vasisht G, Chen P, et al., 2011, Thermochemical and photochemical kinetics in cooler hydrogen-dominated extrasolar planets: a methane-poor GJ 436 b? *ApJ*, 738, 32 {16}

Line MR, Yung YL, 2013, A systematic retrieval analysis of secondary eclipse spectra. III. Diagnosing chemical disequilibrium in planetary atmospheres. *ApJ*, 779, 3 {17, 18, 19, 41, 43, 44, 45}

Lines S, Leinhardt ZM, Baruteau C, et al., 2015, Modelling circumbinary protoplanetary disks. I. Fluid simulations of the Kepler–16 and Kepler–34 systems. *A&A*, 582, A5 {28, 29}

Lines S, Leinhardt ZM, Paardekooper S, et al., 2014, Forming circumbinary planets: N-body simulations of Kepler–34. *ApJ*, 782, L11 {29}

Lines S, Manners J, Mayne NJ, et al., 2018a, Exonephology: transmission spectra from a 3D simulated cloudy atmosphere of HD 209458 b. *MNRAS*, 481, 194–205 {21}

Lines S, Mayne NJ, Boutle IA, et al., 2018b, Simulating the cloudy atmospheres of HD 209458 b and HD 189733 b with the 3D Met Office Unified Model. *A&A*, 615, A97 {19, 21}

Lingam M, Loeb A, 2017a, Enhanced interplanetary panspermia in the TRAPPIST–1 system. *Proc. Nat. Acad. Sci.*, 114, 6689–6693 {40}

—, 2017b, Reduced diversity of life around Proxima Cen and TRAPPIST–1. *ApJ*, 846, L21 {2, 40}

—, 2018, Implications of captured interstellar objects for panspermia and extraterrestrial life. *AJ*, 156, 193 {2}

Linsky JL, Yang H, France K, et al., 2010, Observations of mass loss from the transiting exoplanet HD 209458 b. *ApJ*, 717, 1291–1299 {20}

Liseau R, Eiroa C, Fedele D, et al., 2010, Resolving the cold debris disk around a planet-hosting star: Herschel–PACS photometric imaging of q[1] Eri. *A&A*, 518, L132 {6}

Liseau R, Risacher C, Brandeker A, et al., 2008, q^1 Eri: a solar-type star with a planet and a dust belt. *A&A*, 480, L47–L50 {6}

Lissauer JJ, Fabrycky DC, Ford EB, et al., 2011, A closely-packed system of low-mass, low-density planets transiting Kepler–11. *Nature*, 470, 53–58 {27}

Lissauer JJ, Jontof-Hutter D, Rowe JF, et al., 2013, All six planets known to orbit Kepler–11 have low densities. *ApJ*, 770, 131 {27}

Lissauer JJ, Marcy GW, Rowe JF, et al., 2012, Validation of Kepler's multiple planet candidates. I. Almost all of Kepler's multiple planet candidates are planets. *ApJ*, 750, 112 {29}

Lissauer JJ, Rivera EJ, 2001, Stability analysis of the planetary system orbiting υ And. II. Simulations using new Lick observatory fits. *ApJ*, 554, 1141–1150 {1}

Lisse CM, Sitko ML, Marengo M, 2015, IRTF–SPeX observations of the unusual Kepler light curve system KIC–8462852. *ApJ*, 815, L27 {36}

Lister TA, Anderson DR, Gillon M, et al., 2009, WASP–16 b: a new Jupiter-like planet transiting a southern solar analogue. *ApJ*, 703, 752–756 {43}

Littlefield C, 2010, Observing exoplanet transits with digital SLR cameras. *J. Am. Assoc. Variable Star Obs.*, 38(HD 189733), 212–213 {18}

—, 2011, An examination of possible gravitational perturbations in the transit timing variations of exoplanet WASP–3 b [unpublished]. *ArXiv e-prints* {41}

Liu B, Ormel CW, Lin DNC, 2017, Dynamical rearrangement of super-Earths during disk dispersal. I. Outline of the magnetospheric rebound model. *A&A*, 601, A15 {32}

Liu F, Asplund M, Ramírez I, et al., 2014a, A high-precision chemical abundance analysis of the HAT–P–1 stellar binary: constraints on planet formation. *MNRAS*, 442, L51–L55 {23}

Liu F, Yong D, Asplund M, et al., 2016, The detailed chemical composition of the terrestrial planet host Kepler–10. *MNRAS*, 456, 2636–2646 {27}

—, 2018a, Detailed chemical compositions of the wide binary HD 80606/HD 80607: revised stellar properties and constraints on planet formation. *A&A*, 614, A138 {17}

Liu HG, Jiang P, Huang X, et al., 2018b, Searching for the transit of the Earth-mass exoplanet Proxima Cen b in Antarctica: preliminary result. *AJ*, 155, 12 {2}

Liu HG, Wang Y, Zhang H, et al., 2014b, Transits of planets with small intervals in circumbinary systems. *ApJ*, 790, 141 {28, 29, 30}

Liu HG, Zhang H, Zhou JL, 2013, Where to find habitable Earths in circumbinary systems. *ApJ*, 767, L38 {28, 29, 30}

Liu MC, Delorme P, Dupuy TJ, et al., 2011, CFBDSIR J1458+1013B: a very cold brown dwarf in a binary system. *ApJ*, 740, 108 {54}

Liu MC, Dupuy TJ, Bowler BP, et al., 2012, Two extraordinary substellar binaries at the T/Y transition and the Y-band fluxes of the coolest brown dwarfs. *ApJ*, 758, 57 {54}

Liu MC, Leggett SK, Chiu K, 2007, The late-T dwarf companion to the exoplanet host star HD 3651: a new benchmark for gravity and metallicity effects in ultracool spectra. *ApJ*, 660, 1507–1516 {6}

Liu SF, Hori Y, Lin DNC, et al., 2015, Giant impact: an efficient mechanism for the devolatilisation of super-Earths. *ApJ*, 812, 164 {29}

Liu SF, Jin S, Li S, et al., 2018c, New constraints on turbulence and embedded planet mass in the HD 163296 disk from planet–disk hydrodynamic simulations. *ApJ*, 857, 87 {11}

Liu WM, Hinz PM, Meyer MR, et al., 2003, A resolved circumstellar disk around the Herbig Ae star HD 100546 in the thermal infrared. *ApJ*, 598, L111–L114 {52}

Liu X, Burrows A, Ibgui L, 2008a, Theoretical radii of extrasolar giant planets: the cases of TrES–4, XO–3 b, and HAT–P–1 b. *ApJ*, 687, 1191–1200 {23, 41, 48}

Liu YJ, Sato B, Zhao G, et al., 2008b, A substellar companion to the intermediate-mass giant 11 Com. *ApJ*, 672, 553–557 {3}

—, 2009, A planetary companion orbiting the intermediate-mass G giant HD 173416. *Res. Astron. Astrophys.*, 9, 1–4 {12}

Livingston JH, Crossfield IJM, Petigura EA, et al., 2018a, Sixty validated planets from K2 Campaigns 5–8. *AJ*, 156, 277 {38}

Livingston JH, Dai F, Hirano T, et al., 2018b, K2–264: a transiting multi-planet system in the Praesepe open cluster. *MNRAS* {38}

—, 2018c, Three small planets transiting a Hyades star. *AJ*, 155, 115 {38}

Livingston JH, Endl M, Dai F, et al., 2018d, 44 validated planets from K2 Campaign 10. *AJ*, 156, 78 {38}

Llama J, Shkolnik EL, 2015, Transiting the Sun: the impact of stellar activity on X-ray and ultraviolet transits. *ApJ*, 802, 41 {19, 43}

—, 2016, Transiting the Sun. II. The impact of stellar activity on Ly-α transits. *ApJ*, 817, 81 {16, 17, 19}

Llama J, Vidotto AA, Jardine M, et al., 2013, Exoplanet transit variability: bow shocks and winds around HD 189733 b. *MNRAS*, 436, 2179–2187 {19}

Llama J, Wood K, Jardine M, et al., 2011, The shocking transit of WASP–12 b: modelling the observed early ingress in the near-ultraviolet. *MNRAS*, 416, L41–L44 {42}

Lo Curto G, Mayor M, Benz W, et al., 2010, The HARPS search for southern extrasolar planets. XXII. Multiple planet systems from the HARPS volume-limited sample. *A&A*, 512, A48 {10, 13}

—, 2013, The HARPS search for southern extrasolar planets. XXXII. New multi-planet systems in the HARPS volume limited sample: a super-Earth and a Neptune in the habitable zone. *A&A*, 551, A59 {4, 10}

Lo Curto G, Mayor M, Clausen JV, et al., 2006, The HARPS search for southern extrasolar planets. VII. A very hot Jupiter orbiting HD 212301. *A&A*, 451, 345–350 {13}

Lockwood AC, Johnson JA, Bender CF, et al., 2014, Near-infrared direct detection of water vapour in τ Boo b. *ApJ*, 783, L29 {2}

Loeb A, 2018, Six strange facts aboutOumuamua. *arXiv e-prints* {55}

Loeillet B, Shporer A, Bouchy F, et al., 2008, Refined parameters and spectroscopic transit of the super-massive planet HAT–P–2. *A&A*, 481, 529–533 {23}

Loibnegger B, Dvorak R, Cuntz M, 2017, Case studies of exocomets in the system of HD 10180. *AJ*, 153, 203 {6}

Lopez ED, 2017, Born dry in the photoevaporation desert: Kepler's ultra-short-period planets formed water-poor. *MNRAS*, 472, 245–253 {16}

Lopez ED, Fortney JJ, 2013, The role of core mass in controlling evaporation: the Kepler radius distribution and the Kepler–36 density dichotomy. *ApJ*, 776, 2 {29}

Lopez ED, Fortney JJ, Miller N, 2012, How thermal evolution and mass-loss sculpt populations of super-Earths and sub-Neptunes: application to the Kepler–11 system and beyond. *ApJ*, 761, 59 {27}

López-Morales M, Butler RP, Fischer DA, et al., 2008, Two Jupiter-mass planets orbiting HD 154672 and HD 205739. *AJ*, 136, 1901–1905 {11, 12}

López-Morales M, Coughlin JL, Sing DK, et al., 2010, Day-side z'-band emission and eccentricity of WASP–12 b. *ApJ*, 716, L36–L40 {42}

López-Morales M, Haywood RD, Coughlin JL, et al., 2016, Kepler–21 b: a rocky planet around a $V = 8.25$ mag star. *AJ*, 152, 204 {28}

López-Morales M, Morrell NI, Butler RP, et al., 2006, Limits to transits of the Neptune-mass planet orbiting GJ 581. *PASP*, 118, 1506–1509 {5}

López-Morales M, Triaud AHMJ, Rodler F, et al., 2014, Rossiter–McLaughlin observations of 55 Cnc e. *ApJ*, 792, L31 {16}

Lothringer JD, Benneke B, Crossfield IJM, et al., 2018, An HST–STIS optical transmission spectrum of warm Neptune GJ 436 b. *AJ*, 155, 66 {17}

Louden T, Kreidberg L, 2018, SPIDERMAN: an open-source code to model phase curves and secondary eclipses. *MNRAS*, 477, 2613–2627 {45}

Louden T, Wheatley PJ, 2015, Spatially resolved eastward winds and rotation of HD 189733 b. *ApJ*, 814, L24 {19}

Louden T, Wheatley PJ, Briggs K, 2017a, Reconstructing the high-energy irradiation of the evaporating hot Jupiter HD 209458 b. *MNRAS*, 464, 2396–2402 {21}

Louden T, Wheatley PJ, Irwin PGJ, et al., 2017b, A precise optical transmission spectrum of the inflated exoplanet WASP–52 b. *MNRAS*, 470, 742–754 {46}

Lous MM, Weenk E, Kenworthy MA, et al., 2018, A search for transiting planets in the β Pic system. *A&A*, 615, A145 {52}

Lovis C, Mayor M, 2007, Planets around evolved intermediate-mass stars. I. Two substellar companions in the open clusters NGC 2423 and NGC 4349. *A&A*, 472, 657–664 {4, 14}

Lovis C, Mayor M, Bouchy F, et al., 2005, The HARPS search for southern extrasolar planets. III. Three Saturn-mass planets around HD 93083, HD 101930 and HD 102117. *A&A*, 437, 1121–1126 {9, 10}

Lovis C, Mayor M, Pepe F, et al., 2006, An extrasolar planetary system with three Neptune-mass planets. *Nature*, 441, 305–309 {8}

Lovis C, Ségransan D, Mayor M, et al., 2011, The HARPS search for southern extrasolar planets. XXVIII. Up to seven planets orbiting HD 10180. *A&A*, 528, A112 {6}

Lovis C, Snellen I, Mouillet D, et al., 2017, Atmospheric characterisation of Proxima Cen b by coupling the SPHERE high-contrast imager to the ESPRESSO spectrograph. *A&A*, 599, A16 {2}

Lowrance PJ, Kirkpatrick JD, Beichman CA, 2002, A distant stellar companion in the υ And system. *ApJ*, 572, L79–L81 {1}

Lucas PW, Hough JH, Bailey JA, et al., 2009, Planetpol polarimetry of the exoplanet systems 55 Cnc and τ Boo. *MNRAS*, 393, 229–244 {2, 16}

Luger R, Lustig-Yaeger J, Agol E, 2017a, Planet–planet occultations in TRAPPIST–1 and other exoplanet systems. *ApJ*, 851, 94 {40}

Luger R, Lustig-Yaeger J, Fleming DP, et al., 2017b, The Pale Green Dot: a method to characterise Proxima Cen b using exo-aurorae. *ApJ*, 837, 63 {2}

Luger R, Sestovic M, Kruse E, et al., 2017c, A seven-planet resonant chain in TRAPPIST–1. *Nature Astronomy*, 1, 0129 {40}

Luhman KL, Burgasser AJ, Bochanski JJ, 2011, Discovery of a candidate for the coolest known brown dwarf. *ApJ*, 730, L9 {54}

Luhman KL, Burgasser AJ, Labbé I, et al., 2012, Confirmation of one of the coldest known brown dwarfs. *ApJ*, 744, 135 {54}

Luhman KL, Mamajek EE, Allen PR, et al., 2009, Discovery of a wide binary brown dwarf born in isolation. *ApJ*, 691, 1265–1275 {52}

Luhman KL, Patten BM, Marengo M, et al., 2007, Discovery of two T dwarf companions with the Spitzer Space Telescope. *ApJ*, 654, 570–579 {52}

Luhman KL, Wilson JC, Brandner W, et al., 2006, Discovery of a young substellar companion in Chamaeleon. *ApJ*, 649, 894–899 {54}

Luhn JK, Bastien FA, Wright JT, et al., 2018, Retired A stars and their companions. VIII. 15 new planetary signals around subgiants and transit parameters for California Planet Search Planets with subgiant hosts. *arXiv e-prints* {6, 7, 9, 12}

Lund MB, Rodriguez JE, Zhou G, et al., 2017, KELT–20 b: a giant planet with a period of 3.5 d transiting the $V = 7.6$ early A star HD 185603. *AJ*, 154, 194 {27}

Lund MN, Lundkvist M, Silva Aguirre V, et al., 2014, Asteroseismic inference on the spin–orbit misalignment and stellar parameters of HAT–P–7. *A&A*, 570, A54 {24}

Lupu RE, Marley MS, Lewis N, et al., 2016, Developing atmospheric retrieval methods for direct imaging spectroscopy of gas giants in reflected light. I. Methane abundances and basic cloud properties. *AJ*, 152, 217 {10}

Luque R, Nowak G, Pallé E, et al., 2018, The CARMENES search for exoplanets around M dwarfs: the warm super-Earths in twin orbits around the mid-type M dwarfs Ross 1020 (GJ 3779) and LP 819–052 (GJ 1265). *A&A*, 620, A171 {6}

Lurie JC, Henry TJ, Jao WC, et al., 2014, The solar neighbourhood. 34. A search for planets orbiting nearby M dwarfs using astrometry. *AJ*, 148, 91 {5, 23}

Lynch CR, Murphy T, Kaplan DL, et al., 2017, A search for circularly polarised emission from young exoplanets. *MNRAS*, 467, 3447–3453 {37, 43}

Lynch CR, Murphy T, Lenc E, et al., 2018, The detectability of radio emission from exoplanets. *MNRAS*, 478, 1763–1775 {4}

Lyra W, Kuchner M, 2013, Formation of sharp eccentric rings in debris disks with gas but without planets. *Nature*, 499, 184–187 {51}

Lyra W, Richert AJW, Boley A, et al., 2016, On shocks driven by high-mass planets in radiatively inefficient disks. II. Three-dimensional global disk simulations. *ApJ*, 817, 102 {53}

Ma B, Ge J, Muterspaugh M, et al., 2018, The first super-Earth detection from the high

cadence and high radial velocity precision Dharma Planet Survey. *MNRAS*, 480, 2411–2422 {7}
Ma B, Ge J, Wolszczan A, et al., 2016, Very low-mass stellar and substellar companions to solar-like stars from MARVELS. VI. A giant planet and a brown dwarf candidate in a close binary system HD 87646. *AJ*, 152, 112 {9}
Ma DZ, Fu YN, Wang XL, 2017, The orbital configuration of the two interacting Jupiters in HD 155358 system. *MNRAS*, 470, 706–712 {11}
Maccone C, 2000, The gravitational lenses of α Cen A, B, C and of Barnard's star. *Acta Astron.*, 47, 885–897 {2}
MacDonald MG, Dawson RI, 2018, Three pathways for observed resonant chains. *AJ*, 156, 228 {30, 31, 33, 40}
MacDonald MG, Ragozzine D, Fabrycky DC, et al., 2016, A dynamical analysis of the Kepler–80 system of five transiting planets. *AJ*, 152, 105 {31}
MacDonald RJ, Madhusudhan N, 2017a, HD 209458 b in new light: evidence of N chemistry, patchy clouds and sub-solar water. *MNRAS*, 469, 1979–1996 {21}
—, 2017b, Signatures of nitrogen chemistry in hot Jupiter atmospheres. *ApJ*, 850, L15 {21, 44, 46}
MacGregor MA, Lawler SM, Wilner DJ, et al., 2016, ALMA observations of the debris disk of solar analogue τ Cet. *ApJ*, 828, 113 {3}
MacGregor MA, Matrà L, Kalas P, et al., 2017a, A complete ALMA map of the Fomalhaut debris disk. *ApJ*, 842, 8 {51}
MacGregor MA, Wilner DJ, Czekala I, et al., 2017b, ALMA measurements of circumstellar material in the GQ Lup system. *ApJ*, 835, 17 {52}
Machalek P, Greene T, McCullough PR, et al., 2010, Thermal emission and tidal heating of the heavy and eccentric planet XO–3 b. *ApJ*, 711, 111–118 {48}
Machalek P, McCullough PR, Burke CJ, et al., 2008, Thermal emission of exoplanet XO–1 b. *ApJ*, 684, 1427–1432 {47}
Machalek P, McCullough PR, Burrows A, et al., 2009, Detection of thermal emission of XO–2 b: evidence for a weak temperature inversion. *ApJ*, 701, 514–520 {48}
Maciejewski G, Dimitrov D, Fernández M, et al., 2016a, Departure from the constant-period ephemeris for the transiting exoplanet WASP–12. *A&A*, 588, L6 {43}
Maciejewski G, Dimitrov D, Mancini L, et al., 2016b, New transit observations for HAT–P–30 b, HAT–P–37 b, TrES–5 b, WASP–28 b, WASP–36 b and WASP–39 b. *Acta Astronomica*, 66, 55–74 {25, 26, 41, 44, 45}
Maciejewski G, Dimitrov D, Neuhäuser R, et al., 2010, Transit timing variation in exoplanet WASP–3 b. *MNRAS*, 407, 2625–2631 {41}
—, 2011a, Transit timing variation and activity in the WASP–10 planetary system. *MNRAS*, 411, 1204–1212 {42}
Maciejewski G, Dimitrov D, Seeliger M, et al., 2013a, Multi-site campaign for transit timing variations of WASP–12 b: possible detection of a long-period signal of planetary origin. *A&A*, 551, A108 {43}
Maciejewski G, Errmann R, Raetz S, et al., 2011b, High-precision photometry of WASP–12 b transits. *A&A*, 528, A65 {42}
Maciejewski G, Fernández M, Aceituno F, et al., 2018a, Planet–star interactions with precise transit timing. I. The refined orbital decay rate for WASP–12 b and initial constraints for HAT–P–23 b, KELT–1 b, KELT–16 b, WASP–33 b and WASP–103 b. *Acta Astronomica*, 68, 371–401 {25, 26, 27, 43, 45, 47}
Maciejewski G, Fernández M, Aceituno FJ, et al., 2015, No variations in transit times for Qatar–1 b. *A&A*, 577, A109 {39}
Maciejewski G, Ginski C, Gilbert H, et al., 2016c, On the orbital period of the exoplanet WASP–39 b. *Information Bulletin on Variable Stars*, 6177 {45}
Maciejewski G, Niedzielski A, Nowak G, et al., 2014a, On the GJ 436 planetary system. *Acta Astronomica*, 64, 323–335 {17}
Maciejewski G, Niedzielski A, Wolszczan A, et al., 2013b, Constraints on a second planet in the WASP–3 system. *AJ*, 146, 147 {42}
Maciejewski G, Ohlert J, Dimitrov D, et al., 2014b, Revisiting parameters for the WASP–1 planetary system. *Acta Astronomica*, 64, 27 {41}
Maciejewski G, Puchalski D, Saral G, et al., 2013c, New mid-transit times for HAT–P–36 b, TrES–3 b, and WASP–43 b. *IBVS*, 6082, 1 {26, 41, 45}
Maciejewski G, Raetz S, Nettelmann N, et al., 2011c, Analysis of new high-precision transit light curves of WASP–10 b: star spot occultations, small planetary radius, and high metallicity. *A&A*, 535, A7 {42}
Maciejewski G, Seeliger M, Adam C, et al., 2011d, Refining parameters of the XO–5 planetary system with high-precision transit photometry. *Acta Astronomica*, 61, 25–35 {48}
Maciejewski G, Stangret M, Ohlert J, et al., 2018b, New transit timing observations for GJ 436 b, HAT–P–3 b, HAT–P–19 b, WASP–3 b, and XO–2 b. *Information Bulletin on Variable Stars*, 6243 {24, 25, 42, 48}
Macintosh BA, Becklin EE, Kaisler D, et al., 2003, Deep Keck adaptive optics searches for extrasolar planets in the dust of ϵ Eri and Vega. *ApJ*, 594, 538–544 {3}
Macintosh BA, Graham JR, Barman T, et al., 2015, Discovery and spectroscopy of the young Jovian planet 51 Eri b with the Gemini Planet Imager (GPI). *Science*, 350, 64–67 {51}
Mack CE, Schuler SC, Stassun KG, et al., 2014, Detailed abundances of planet-hosting wide binaries. I. Did planet formation imprint chemical signatures in the atmospheres of HD 20782/81? *ApJ*, 787, 98 {7}
Mack CE, Stassun KG, Schuler SC, et al., 2016, Detailed abundances of planet-hosting wide binaries. II. HD 80606 and HD 80607. *ApJ*, 818, 54 {17}
Mack CE, Strassmeier KG, Ilyin I, et al., 2018, PEPSI deep spectra. III. Chemical analysis of the ancient planet-host star Kepler–444. *A&A*, 612, A46 {35}
Mackebrandt F, Mallonn M, Ohlert JM, et al., 2017, Transmission spectroscopy of the hot Jupiter TrES-3 b: Disproof of an overly large Rayleigh-like feature. *A&A*, 608, A26 {41}
Madhusudhan N, 2012, C/O ratio as a dimension for characterising exoplanetary atmospheres. *ApJ*, 758, 36 {21, 42, 43, 44, 47}
Madhusudhan N, Burrows A, Currie T, 2011a, Model atmospheres for massive gas giants with thick clouds: application to the HR 8799 planets and predictions for future detections. *ApJ*, 737, 34 {53}
Madhusudhan N, Crouzet N, McCullough PR, et al., 2014, H_2O abundances in the atmospheres of three hot Jupiters. *ApJ*, 791, L9 {19, 20, 43}
Madhusudhan N, Harrington J, Stevenson KB, et al., 2011b, A high C/O ratio and weak thermal inversion in the atmosphere of exoplanet WASP–12 b. *Nature*, 469, 64–67 {42}
Madhusudhan N, Lee KKM, Mousis O, 2012, A possible carbon-rich interior in super-Earth 55 Cnc e. *ApJ*, 759, L40 {16}
Madhusudhan N, Mousis O, Johnson TV, et al., 2011c, Carbon-rich giant planets: atmospheric chemistry, thermal inversions, spectra, and formation conditions. *ApJ*, 743, 191 {42}
Madhusudhan N, Redfield S, 2015, Optimal measures for characterising water-rich super-Earths. *Int. J. Astrobiol.*, 14, 177–189 {16, 23}
Madhusudhan N, Seager S, 2010, On the inference of thermal inversions in hot Jupiter atmospheres. *ApJ*, 725, 261–274 {20, 24, 40, 41}
—, 2011, High metallicity and non-equilibrium chemistry in the day-side atmosphere of hot-Neptune GJ 436 b. *ApJ*, 729, 41 {16}
Madhusudhan N, Winn JN, 2009, Empirical constraints on Trojan companions and orbital eccentricities in 25 transiting systems. *ApJ*, 693, 784–793 {16}
Maggio A, Pillitteri I, Scandariato G, et al., 2015, Coordinated X-ray and optical observations of star–planet Interaction in HD 17156. *ApJ*, 811, L2 {17}
Mahajan N, Wu Y, 2014, Stability of the Kepler–11 system and its origin. *ApJ*, 795, 32 {28}
Mahapatra G, Helling C, Miguel Y, 2017, Cloud formation in metal-rich atmospheres of hot super-Earths like 55 Cnc e and CoRoT–7 b. *MNRAS*, 472, 447–464 {16, 22}
Mahtani DP, Maxted PFL, Anderson DR, et al., 2013, Warm Spitzer occultation photometry of WASP–26 b at 3.6 and 4.5μm. *MNRAS*, 432, 693–701 {44}
Maire AL, Rodet L, Lazzoni C, et al., 2018, VLT–SPHERE astrometric confirmation and orbital analysis of the brown dwarf companion HR 2562 B. *A&A*, 615, A177 {53}
Maire AL, Skemer AJ, Hinz PM, et al., 2015, The LEECH Exoplanet Imaging Survey: further constraints on the planet architecture of the HR 8799 system. *A&A*, 576, A133 {53}
Majeau C, Agol E, Cowan NB, 2012, A two-dimensional infrared map of the extrasolar planet HD 189733 b. *ApJ*, 747, L20 {18}
Makarov VV, Berghea C, 2014, Dynamical evolution and spin–orbit resonances of potentially habitable exoplanets: the case of GJ 667C. *ApJ*, 780, 124 {5}
Makarov VV, Berghea C, Efroimsky M, 2012, Dynamical evolution and spin–orbit resonances of potentially habitable exoplanets: GJ 581 d. *ApJ*, 761, 83 {5}
Makarov VV, Berghea CT, Efroimsky M, 2018, Spin–orbital tidal dynamics and tidal heating in the TRAPPIST–1 multi-planet system. *ApJ*, 857, 142 {40}
Makarov VV, Efroimsky M, 2014, Tidal dissipation in a homogeneous spherical body. II. Three examples: Mercury, IO, and Kepler–10 b. *ApJ*, 795, 7 {27}
Makarov VV, Goldin A, 2016, Photometric and astrometric vagaries of the enigma star KIC–8462852. *ApJ*, 833, 78 {36}
Malavolta L, Borsato L, Granata V, et al., 2017, The Kepler–19 system: a thick-envelope super-Earth with two Neptune-mass companions characterised using radial velocities and transit timing variations. *AJ*, 153, 224 {28}
Malavolta L, Mayo AW, Louden T, et al., 2018, An ultra-short period rocky super-Earth with a secondary eclipse and a Neptune-like companion around K2–141. *AJ*, 155, 107 {38}
Malavolta L, Nascimbeni V, Piotto G, et al., 2016, The GAPS programme with HARPS–N at TNG. XI. Pr 211 in M44: the first multi-planet system in an open cluster. *A&A*, 588, A118 {14}
Males JR, Close LM, Morzinski KM, et al., 2014, Magellan adaptive optics first-light observations of the exoplanet β Pic b. I. Direct imaging in the far-red optical with MagAO+VisAO and in the near-infrared with NICI. *ApJ*, 786, 32 {52}
Malhotra R, Minton DA, 2008, Prospects for the habitability of OGLE–2006–BLG–109L. *ApJ*, 683, L67–L70 {50}
Malik M, Grosheintz L, Mendonça JM, et al., 2017, HELIOS: an open-source, GPU-accelerated radiative transfer code for self-consistent exoplanetary atmospheres. *AJ*, 153, 56 {19, 42, 43, 44, 45}
Mallonn M, Bernt I, Herrero E, et al., 2016, Broad-band spectrophotometry of HAT–P–32 b: search for a scattering signature in the planetary spectrum. *MNRAS*, 463, 604–614 {25}
Mallonn M, Nascimbeni V, Weingrill J, et al., 2015a, Broad-band spectrophotometry of the hot Jupiter HAT–P–12 b from the near-ultraviolet to the near-infrared. *A&A*, 583, A138 {24}
Mallonn M, Strassmeier KG, 2016, Transmission spectroscopy of HAT–P–32 b with the LBT: confirmation of clouds/hazes in the planetary atmosphere. *A&A*, 590, A100 {25}
Mallonn M, von Essen C, Weingrill J, et al., 2015b, Transmission spectroscopy of the inflated exo-Saturn HAT–P–19 b. *A&A*, 580, A60 {25}
Mallonn M, Wakeford HR, 2017, Near-ultraviolet transit photometry of HAT–P–32 b with the Large Binocular Telescope: silicate aerosols in the planetary atmosphere. *Astron. Nach.*, 338, 773–780 {25}
Mamajek E, 2017, Kinematics of the interstellar vagabond Oumuamua. *RNAAS*, 1, 21 {54}
Mamajek EE, 2005, A moving cluster distance to the exoplanet 2M J1207 b in the TW Hya association. *ApJ*, 634, 1385–1394 {54}
—, 2010, On the nature of the purported common proper motion companions to the exoplanet host star 51 Peg. *Astron. Nach.*, 331, 704 {3}
—, 2012, On the age and binarity of Fomalhaut. *ApJ*, 754, L20 {51}
Mamajek EE, Bartlett JL, Seifahrt A, et al., 2013, The solar neighbourhood. 30. Fomalhaut C. *AJ*, 146, 154 {51}
Mamajek EE, Meyer MR, 2007, An improbable solution to the underluminosity of 2M J1207 b: a hot protoplanet collision afterglow. *ApJ*, 668, L175–L178 {54}
Mamajek EE, Quillen AC, Pecaut MJ, et al., 2012, Planetary construction zones in occultation: discovery of an extrasolar ring system transiting a young Sun-like star and future prospects for detecting eclipses by circumsecondary and circumplanetary disks. *AJ*, 143, 72 {41}
Mancini L, Ciceri S, Chen G, et al., 2013a, Physical properties, transmission and emission spectra of the WASP–19 planetary system from multi-colour photometry. *MNRAS*, 436, 2–18 {44}

Mancini L, Esposito M, Covino E, et al., 2015a, The GAPS Programme with HARPS–N at TNG. VIII. Observations of the Rossiter–McLaughlin effect and characterisation of the transiting planetary systems HAT–P–36 and WASP–11/HAT–P–10. *A&A*, 579, A136 {26, 42}

—, 2018, The GAPS programme with HARPS–N at TNG. XVI. Measurement of the Rossiter–McLaughlin effect of transiting planetary systems HAT–P–3, HAT–P–12, HAT–P–22, WASP–39, and WASP–60. *A&A*, 613, A41 {24, 25, 45, 46}

Mancini L, Giordano M, Mollière P, et al., 2016a, An optical transmission spectrum of the transiting hot Jupiter in the metal-poor WASP–98 planetary system. *MNRAS*, 461, 1053–1061 {47}

Mancini L, Hartman JD, Penev K, et al., 2015b, HATS–13 b and HATS–14 b: two transiting hot Jupiters from the HAT–South survey. *A&A*, 580, A63 {26}

Mancini L, Kemmer J, Southworth J, et al., 2016b, An optical transmission spectrum of the giant planet WASP–36 b. *MNRAS*, 459, 1393–1402 {45}

Mancini L, Lillo-Box J, Southworth J, et al., 2016c, Kepler–539: a young extrasolar system with two giant planets on wide orbits and in gravitational interaction. *A&A*, 590, A112 {35}

Mancini L, Nikolov N, Southworth J, et al., 2013b, Physical properties of the WASP–44 planetary system from simultaneous multi-colour photometry. *MNRAS*, 430, 2932–2942 {45}

Mancini L, Southworth J, Ciceri S, et al., 2013c, A lower radius and mass for the transiting extrasolar planet HAT–P–8 b. *A&A*, 551, A11 {24}

—, 2014a, Physical properties and transmission spectrum of the WASP–80 planetary system from multi-colour photometry. *A&A*, 562, A126 {46}

—, 2014b, Physical properties of the WASP–67 planetary system from multi-colour photometry. *A&A*, 568, A127 {46}

—, 2014c, Physical properties, star-spot activity, orbital obliquity and transmission spectrum of the Qatar–2 planetary system from multicolour photometry. *MNRAS*, 443, 2391–2409 {39}

Mancini L, Southworth J, Raia G, et al., 2017, Orbital alignment and star spot properties in the WASP–52 planetary system. *MNRAS*, 465, 843–857 {46}

Mandell AM, Deming D, Blake GA, et al., 2011, Non-detection of L-band line emission from the exoplanet HD 189733 b. *ApJ*, 728, 18 {18}

Mandell AM, Haynes K, Sinukoff E, et al., 2013, Exoplanet transit spectroscopy using WFC3: WASP–12 b, WASP–17 b, and WASP–19 b. *ApJ*, 779, 128 {43, 44}

Mandushev G, O'Donovan FT, Charbonneau D, et al., 2007, TrES–4: a transiting hot Jupiter of very low density. *ApJ*, 667, L195–L198 {41}

Mandushev G, Quinn SN, Buchhave LA, et al., 2011, TrES–5: a massive Jupiter-sized planet transiting a cool G dwarf. *ApJ*, 741, 114 {41}

Maness HL, Marcy GW, Ford EB, et al., 2007, The M dwarf GJ 436 and its Neptune-mass planet. *PASP*, 119, 90–101 {16}

Mann AW, Dupuy T, Muirhead PS, et al., 2017a, The gold standard: accurate stellar and planetary parameters for eight Kepler M dwarf systems enabled by parallaxes. *AJ*, 153, 267 {28, 30, 32, 35, 36}

Mann AW, Gaidos E, Mace GN, et al., 2016a, Zodiacal Exoplanets in Time (ZEIT). I. A Neptune-sized planet orbiting an M4.5 dwarf in the Hyades star cluster. *ApJ*, 818, 46 {37}

Mann AW, Gaidos E, Vanderburg A, et al., 2017b, Zodiacal Exoplanets in Time (ZEIT). IV. Seven transiting planets in the Praesepe cluster. *AJ*, 153, 64 {38}

Mann AW, Newton ER, Rizzuto AC, et al., 2016b, Zodiacal Exoplanets in Time (ZEIT). III. A short-period planet orbiting a pre-main-sequence star in the Upper Scorpius OB Association. *AJ*, 152, 61 {37}

Mann AW, Vanderburg A, Rizzuto AC, et al., 2018, Zodiacal Exoplanets in Time (ZEIT). VI. A three-planet system in the Hyades cluster including an Earth-sized planet. *AJ*, 155, 4 {38}

Mansfield M, Bean JL, Line MR, et al., 2018a, An HST–WFC3 thermal emission spectrum of the hot Jupiter HAT–P–7 b. *AJ*, 156, 10 {24}

Mansfield M, Bean JL, Oklopčić A, et al., 2018b, Detection of helium in the atmosphere of the exo-Neptune HAT–P–11 b. *ApJ*, 868, L34 {24}

Marcy GW, Butler RP, 1996, A planetary companion to 70 Vir. *ApJ*, 464, L147–L149 {4}

Marcy GW, Butler RP, Fischer D, et al., 2001a, A pair of resonant planets orbiting GJ 876. *ApJ*, 556, 296–301 {5}

Marcy GW, Butler RP, Fischer DA, et al., 2002, A planet at 5 au around 55 Cnc. *ApJ*, 581, 1375–1388 {16}

Marcy GW, Butler RP, Vogt SS, 2000, Sub-Saturn planetary candidates of HD 16141 and HD 46375. *ApJ*, 536, L43–L46 {7, 8}

Marcy GW, Butler RP, Vogt SS, et al., 1998, A planetary companion to a nearby M4 dwarf, GJ 876. *ApJ*, 505, L147–L149 {5}

—, 1999, Two new candidate planets in eccentric orbits. *ApJ*, 520, 239–247 {11, 13}

—, 2001b, Two substellar companions orbiting HD 168443. *ApJ*, 555, 418–425 {11}

—, 2005, Five new extrasolar planets. *ApJ*, 619, 570–584 {8, 10, 12}

Marcy GW, Butler RP, Williams E, et al., 1997, The planet around 51 Peg. *ApJ*, 481, 926–935 {3}

Marcy GW, Isaacson H, Howard AW, et al., 2014, Masses, radii, and orbits of small Kepler planets: the transition from gaseous to rocky planets. *ApJS*, 210, 20 {29, 30, 31, 32, 34}

Mardling RA, 2010, The determination of planetary structure in tidally-relaxed inclined systems. *MNRAS*, 407, 1048–1069 {24, 25, 43}

Mardling RA, Lin DNC, 2002, Calculating the tidal, spin, and dynamical evolution of extrasolar planetary systems. *ApJ*, 573, 829–844 {1, 5}

Marengo M, Hulsebus A, Willis S, 2015, KIC–8462852: the infrared flux. *ApJ*, 814, L15 {36}

Marengo M, Stapelfeldt K, Werner MW, et al., 2009, Spitzer–IRAC limits to planetary companions of Fomalhaut and ϵ Eri. *ApJ*, 700, 1647–1657 {3, 51}

Marin F, Grosso N, 2017, Computation of the transmitted and polarised scattered fluxes by the exoplanet HD 189733 b in X-rays. *ApJ*, 835, 283 {19}

Marino S, Wyatt MC, Kennedy GM, et al., 2017, ALMA observations of the multiplanet system 61 Vir: what lies outside super-Earth systems? *MNRAS*, 469, 3518–3531 {4}

Marleau GD, Cumming A, 2014, Constraining the initial entropy of directly detected exoplanets. *MNRAS*, 437, 1378–1399 {53}

Marleau GD, Klahr H, Kuiper R, et al., 2017, The planetary accretion shock. I. Framework for radiation-hydrodynamical simulations and first results. *ApJ*, 836, 221 {53, 54}

Marley MS, Saumon D, Cushing M, et al., 2012, Masses, radii, and cloud properties of the HR 8799 planets. *ApJ*, 754, 135 {53}

Marmier M, Ségransan D, Udry S, et al., 2013, The CORALIE survey for southern extrasolar planets. XVII. New and updated long-period and massive planets. *A&A*, 551, A90 {7, 9, 10, 11, 12, 13}

Marois C, Macintosh B, Barman T, 2007, GQ Lup B visible and near-infrared photometric analysis. *ApJ*, 654, L151–L154 {52}

Marois C, Macintosh B, Barman T, et al., 2008, Direct imaging of multiple planets orbiting the star HR 8799. *Science*, 322, 1348–1352 {53}

Marois C, Zuckerman B, Konopacky QM, et al., 2010, Images of a fourth planet orbiting HR 8799. *Nature*, 468, 1080–1083 {53}

Marshall J, Horner J, Carter A, 2010, Dynamical simulations of the HR 8799 planetary system. *Int. J. Astrobiol.*, 9, 259–264 {53}

Marshall JP, Wittenmyer RA, Horner J, et al., 2019, Re-analysing the dynamical stability of the HD 47366 planetary system. *AJ*, 157, 1 {8}

Martí JG, Beaugé C, 2012, Stellar scattering and the origin of the planet around γ Cep A. *A&A*, 544, A97 {3}

Martí JG, Cincotta PM, Beaugé C, 2016, Chaotic diffusion in the GJ 876 planetary system. *MNRAS*, 460, 1094–1105 {6}

Martí JG, Giuppone CA, Beaugé C, 2013, Dynamical analysis of the GJ 876 Laplace resonance. *MNRAS*, 433, 928–934 {5}

Martins JHC, Figueira P, Santos NC, et al., 2013, Spectroscopic direct detection of reflected light from extrasolar planets. *MNRAS*, 436, 1215–1224 {4, 16}

Martins JHC, Santos NC, Figueira P, et al., 2015, Evidence for a spectroscopic direct detection of reflected light from 51 Peg b. *A&A*, 576, A134 {4}

Martioli E, Colón KD, Angerhausen D, et al., 2018, A survey of eight hot Jupiters in secondary eclipse using CFHT–WIRCam. *MNRAS*, 474, 4264–4277 {25, 26, 27, 41, 43, 44}

Marzari F, Dell'Oro A, 2017, Collisional parameters of planetesimal belts, precursor of debris disks, perturbed by a nearby giant planet. *MNRAS*, 466, 3973–3988 {3, 8}

Marzari F, Picogna G, Desidera S, et al., 2012, Planetesimal accumulation around Kepler–16 (AB). *LPI Science Conf Abstracts*, volume 43, 1093 {28}

Marzari F, Scholl H, Tricarico P, 2005, Frequency map analysis of the 3:1 resonance between planets b and c in the 55 Cnc system. *A&A*, 442, 359–364 {16}

Marzari F, Thebault P, Scholl H, et al., 2013, Influence of the circumbinary disk gravity on planetesimal accumulation in the Kepler–16 system. *A&A*, 553, A71 {28}

Masiero J, 2017, Palomar optical spectrum of hyperbolic near-Earth object Oumuamua. *ArXiv e-prints* {54}

Mason PA, Zuluaga JI, Clark JM, et al., 2013, Rotational synchronisation may enhance habitability for circumbinary planets: Kepler binary case studies. *ApJ*, 774, L26 {28, 29, 30}

Masuda K, 2014, Very low density planets around Kepler–51 revealed with transit timing variations and an anomaly similar to a planet–planet eclipse event. *ApJ*, 783, 53 {30}

—, 2015, Spin–orbit angles of Kepler–13A b and HAT–P–7 b from gravity-darkened transit light curves. *ApJ*, 805, 28 {24, 28}

—, 2017, Eccentric companions to Kepler–448 b and Kepler–693 b: clues to the formation of warm Jupiters. *AJ*, 154, 64 {35}

Masuda K, Hirano T, Taruya A, et al., 2013, Characterisation of the KOI–94 system with transit timing variation analysis: implication for the planet–planet eclipse. *ApJ*, 778, 185 {31}

Masuda K, Suto Y, 2016, Transiting planets as a precision clock to constrain the time variation of the gravitational constant. *PASJ*, 68, L5 {24, 27, 28, 34, 41}

Matrà L, Dent WRF, Wyatt MC, et al., 2017a, Exocometary gas structure, origin and physical properties around β Pic through ALMA CO multitransition observations. *MNRAS*, 464, 1415–1433 {52}

Matrà L, MacGregor MA, Kalas P, et al., 2017b, Detection of exocometary CO within the 440 Myr old Fomalhaut belt: a similar CO+CO_2 ice abundance in exocomets and solar system comets. *ApJ*, 842, 9 {51}

Matrà L, Panić O, Wyatt MC, et al., 2015, CO mass upper limits in the Fomalhaut ring: the importance of NLTE excitation in debris disks and future prospects with ALMA. *MNRAS*, 447, 3936–3947 {51}

Matter A, Vannier M, Morel S, et al., 2010, First step to detect an extrasolar planet using simultaneous observations with the VLTI instruments AMBER and MIDI. *A&A*, 515, A69 {4}

Matthews B, Kennedy G, Sibthorpe B, et al., 2014, Resolved imaging of the HR 8799 debris disk with Herschel. *ApJ*, 780, 97 {53}

Maxted PFL, Anderson DR, Collier Cameron A, et al., 2010a, WASP–32 b: a transiting hot Jupiter planet orbiting a lithium-poor, solar-type star. *PASP*, 122, 1465–1470 {44}

—, 2011, WASP–41 b: a transiting hot Jupiter planet orbiting a magnetically active G8V star. *PASP*, 123, 547–554 {45}

—, 2013a, WASP–77A b: a transiting hot Jupiter in a wide binary system. *PASP*, 125, 48–55 {46}

—, 2016, Five transiting hot Jupiters discovered using WASP–South, Euler, and TRAPPIST: WASP–119 b, WASP–124 b, WASP–126 b, WASP–129 b, and WASP–133 b. *A&A*, 591, A55 {47}

Maxted PFL, Anderson DR, Doyle AP, et al., 2013b, Spitzer 3.6 and 4.5 μm full-orbit light curves of WASP–18. *MNRAS*, 428, 2645–2660 {43}

Maxted PFL, Anderson DR, Gillon M, et al., 2010b, WASP–22 b: a transiting hot Jupiter planet in a hierarchical triple system. *AJ*, 140, 2007–2012 {44}

Maxted PFL, Serenelli AM, Southworth J, 2015, Comparison of gyrochronological and isochronal age estimates for transiting exoplanet host stars. *A&A*, 577, A90 {16, 19, 21, 22, 24, 25, 26, 28, 29, 30, 39, 42, 44, 45, 46}

May EM, Zhao M, Haidar M, et al., 2018, MOPSS. I. Flat optical spectra for the hot

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Jupiters WASP–4 b and WASP–52 b. *AJ*, 156, 122 {42, 46}
Mayne NJ, Debras F, Baraffe I, et al., 2017, Results from a set of 3d numerical experiments of a hot Jupiter atmosphere. *A&A*, 604, A79 {21}
Mayo AW, Vanderburg A, Latham DW, et al., 2018, 275 candidates and 149 validated planets orbiting bright stars in K2 Campaigns 0–10. *AJ*, 155, 136 {38}
Mayor M, Bonfils X, Forveille T, et al., 2009a, The HARPS search for southern extrasolar planets. XVIII. An Earth-mass planet in the GJ 581 planetary system. *A&A*, 507, 487–494 {5}
Mayor M, Marmier M, Lovis C, et al., 2011, The HARPS search for southern extrasolar planets. Occurrence, mass and orbital properties of super-Earths and Neptune-mass planets [unpublished]. *ArXiv e-prints* {12, 13}
Mayor M, Queloz D, 1995, A Jupiter-mass companion to a solar-type star. *Nature*, 378, 355–359 {3}
—, 2012, From 51 Peg to Earth-type planets. *New Astron. Rev.*, 56, 19–24 {3}
Mayor M, Udry S, Lovis C, et al., 2009b, The HARPS search for southern extrasolar planets. XIII. A planetary system with 3 super-Earths (4.2, 6.9, and 9.2 $M_\oplus$). *A&A*, 493, 639–644 {8}
Mayor M, Udry S, Naef D, et al., 2004, The CORALIE survey for southern extrasolar planets. XII. Orbital solutions for 16 extrasolar planets discovered with CORALIE. *A&A*, 415, 391–402 {6, 7, 8, 9, 10, 11, 12, 13}
Mazeh T, Faigler S, 2010, Detection of the ellipsoidal and the relativistic beaming effects in the CoRoT–3 light curve. *A&A*, 521, L59 {22}
Mazeh T, Krymolowski Y, Rosenfeld G, 1997, The high eccentricity of the planet orbiting 16 Cyg B. *ApJ*, 477, L103–L106 {3}
Mazeh T, Nachmani G, Holczer T, et al., 2013, Transit timing observations from Kepler. VIII. Catalogue of transit timing measurements of the first twelve quarters. *ApJS*, 208, 16 {34}
Mazeh T, Nachmani G, Sokol G, et al., 2012, Kepler KOI–13.01: detection of beaming and ellipsoidal modulations pointing to a massive hot Jupiter. *A&A*, 541, A56 {28}
Mazeh T, Naef D, Torres G, et al., 2000, The spectroscopic orbit of the planetary companion transiting HD 209458. *ApJ*, 532, L55–L58 {19}
Mazeh T, Zucker S, dalla Torre A, et al., 1999, Analysis of the Hipparcos measurements of υ And: a mass estimate of its outermost known planetary companion. *ApJ*, 522, L149–L151 {1}
Mbarek R, Kempton EMR, 2016, Clouds in super-Earth atmospheres: chemical equilibrium calculations. *ApJ*, 827, 121 {23}
McArthur BE, Benedict GF, Barnes R, et al., 2010, New observational constraints on the υ And system with data from the Hubble Space Telescope and Hobby–Eberly Telescope. *ApJ*, 715, 1203–1220 {1}
McArthur BE, Benedict GF, Henry GW, et al., 2014, Astrometry, radial velocity, and photometry: the HD 128311 system remixed with data from HST, HET, and APT. *ApJ*, 795, 41 {10}
McArthur BE, Endl M, Cochran WD, et al., 2004, Detection of a Neptune-mass planet in the 55 Cnc system using the Hobby–Eberly telescope. *ApJ*, 614, L81–L84 {16}
McCarthy C, Butler RP, Tinney CG, et al., 2004, Multiple companions to HD 154857 and HD 160691. *ApJ*, 617, 575–579 {1, 11}
McClure MK, Manoj P, Calvet N, et al., 2012, Probing dynamical processes in the planet-forming region with dust mineralogy. *ApJ*, 759, L10 {52}
McCullough PR, Burke CJ, Valenti JA, et al., 2008, XO–4 b: an extrasolar planet transiting an F5V star [unpublished]. *ArXiv e-prints* {48}
McCullough PR, Crouzet N, Deming D, et al., 2014, Water vapour in the spectrum of the exoplanet HD 189733 b. I. The transit. *ApJ*, 791, 55 {19}
McCullough PR, Stys JE, Valenti JA, et al., 2006, A transiting planet of a Sun-like star. *ApJ*, 648, 1228–1238 {47}
McDonald I, Kerins E, 2018, Pre-discovery transits of the exoplanets WASP–18 b and WASP–33 b from Hipparcos. *MNRAS*, 477, L21–L24 {24, 26, 44, 45}
McElwain MW, Metchev SA, Larkin JE, et al., 2007, First high-contrast science with an integral field spectrograph: the substellar companion to GQ Lup. *ApJ*, 656, 505–514 {52}
McGrath MA, Nelan E, Black DC, et al., 2002, An upper limit to the mass of the radial velocity companion to ρ^1 Cnc (55 Cnc). *ApJ*, 564, L27–L30 {16}
McLeod KK, Rodriguez JE, Oelkers RJ, et al., 2017, KELT–18 b: puffy planet, hot host, probably perturbed. *AJ*, 153, 263 {27}
McNeill A, Trilling DE, Mommert M, 2018, Constraints on the density and internal strength of Oumuamua. *ApJ*, 857, L1 {55}
Meadows VS, Arney GN, Schwieterman EW, et al., 2018, The habitability of Proxima Cen b: environmental states and observational discriminants. *Astrobiology*, 18, 133–189 {2}
Medvedev AS, Sethunadh J, Hartogh P, 2013, From cold to warm gas giants: a three-dimensional atmospheric general circulation modeling. *Icarus*, 225, 228–235 {9, 11}
Meech KJ, Weryk R, Micheli M, et al., 2017, A brief visit from a red and extremely elongated interstellar asteroid. *Nature*, 552, 378–381 {54}
Meibom S, Torres G, Fressin F, et al., 2013, The same frequency of planets inside and outside open clusters of stars. *Nature*, 499, 55–58 {31}
Mékarnia D, Chapellier E, Guillot T, et al., 2017, The δ Scuti pulsations of β Pic as observed by ASTEP from Antarctica. *A&A*, 608, L6 {52}
Melnikov AV, 2017, Orbital dynamics of the planetary system HD 196885. *Solar System Research*, 51, 327–334 {12}
Melo C, Santos NC, Gieren W, et al., 2007, A new Neptune-mass planet orbiting HD 219828. *A&A*, 467, 721–727 {10, 13}
Melo C, Santos NC, Pont F, et al., 2006, On the age of stars harbouring transiting planets. *A&A*, 460, 251–256 {39, 40}
Mendelowitz C, Ge J, Mandell AM, et al., 2004, A search for sodium absorption from comets around HD 209458. *ApJ*, 601, 1120–1128 {20}
Mendigutía I, Oudmaijer RD, Garufi A, et al., 2017, The protoplanetary system HD 100546 in Hα polarised light from SPHERE/ZIMPOL: a bar-like structure across the disk gap? *A&A*, 608, A104 {53}
Mendigutía I, Oudmaijer RD, Schneider PC, et al., 2018, Spectro-astrometry of the pre-transitional star LkCa 15 does not reveal an accreting planet but extended Hα emission. *A&A*, 618, L9 {54}
Mendonça JM, Malik M, Demory BO, et al., 2018a, Revisiting the phase curves of WASP–43 b: confronting re-analysed Spitzer data with cloudy atmospheres. *AJ*, 155, 150 {45}
Mendonça JM, Tsai Sm, Malik M, et al., 2018b, Three-dimensional circulation driving chemical disequilibrium in WASP–43 b. *ApJ*, 869, 107 {45}
Mengel MW, Fares R, Marsden SC, et al., 2016, The evolving magnetic topology of τ Boo. *MNRAS*, 459, 4325–4342 {2}
Mennesson B, Absil O, Lebreton J, et al., 2013, An interferometric study of the Fomalhaut inner debris disk. II. Keck nuller mid-IR observations. *ApJ*, 763, 119 {51}
Menou K, 2012, Atmospheric circulation and composition of GJ 1214 b. *ApJ*, 744, L16 {23}
Ment K, Fischer DA, Bakos G, et al., 2018, Radial velocities from the N2K project: six new cold gas giant planets orbiting HD 55696, HD 98736, HD 148164, HD 203473, and HD 211810. *AJ*, 156, 213 {8, 9, 11, 12, 13}
Mentel RT, Kenworthy MA, Cameron DA, et al., 2018, Constraining the period of the ringed secondary companion to the young star 1SWASP J1407 with photographic plates. *A&A*, 619, A157 {41}
Mesa D, Baudino JL, Charnay B, et al., 2018, New spectro-photometric characterisation of the substellar object HR 2562 B using VLT–SPHERE. *A&A*, 612, A92 {53}
Mesa D, Zurlo A, Milli J, et al., 2017, Upper limits for mass and radius of objects around Proxima Cen from SPHERE/VLT. *MNRAS*, 466, L118–L122 {2}
Meschiari S, 2012, Circumbinary planet formation in the Kepler–16 system. I. N-body simulations. *ApJ*, 752, 71 {28}
—, 2014, Circumbinary planet formation in the Kepler–16 system. II. A toy model for in situ planet formation within a debris belt. *ApJ*, 790, 41 {28}
Meschiari S, Laughlin G, Vogt SS, et al., 2011, The Lick–Carnegie Survey: four new exoplanet candidates. *ApJ*, 727, 117 {7, 9, 10, 12, 13}
Meshkat T, Bailey V, Rameau J, et al., 2013, Further evidence of the planetary nature of HD 95086 b from Gemini–NICI H-band data. *ApJ*, 775, L40 {52}
Meshkat T, Kenworthy MA, Quanz SP, et al., 2014, Optimised principal component analysis on coronagraphic images of the Fomalhaut system. *ApJ*, 780, 17 {51}
Metcalfe TS, Basu S, Henry TJ, et al., 2010, Discovery of a 1.6 year magnetic activity cycle in the exoplanet host star ι Hor. *ApJ*, 723, L213–L217 {14}
Metcalfe TS, Buccino AP, Brown BP, et al., 2013, Magnetic activity cycles in the exoplanet host star ϵ Eri. *ApJ*, 763, L26 {3}
Metcalfe TS, Chaplin WJ, Appourchaux T, et al., 2012, Asteroseismology of the solar analogues 16 Cyg A and B from Kepler observations. *ApJ*, 748, L10 {3}
Metcalfe TS, Creevey OL, Davies GR, 2015, Asteroseismic modeling of 16 Cyg A and B using the complete Kepler data set. *ApJ*, 811, L37 {3}
Metchev SA, Hillenbrand LA, 2006, HD 203030B: an unusually cool young substellar companion near the L/T transition. *ApJ*, 651, 1166–1176 {53}
Metchev SA, Marois C, Zuckerman B, 2009, Pre-discovery 2007 image of the HR 8799 planetary system. *ApJ*, 705, L204–L207 {53}
Metzger BD, Shen KJ, Stone N, 2017, Secular dimming of KIC–8462852 following its consumption of a planet. *MNRAS*, 468, 4399–4407 {36}
Mia R, Kushvah BS, 2016, Orbital dynamics of exoplanetary systems Kepler–62, HD 200964 and Kepler–11. *MNRAS*, 457, 1089–1100 {12, 28, 30}
Micheli M, Farnocchia D, Meech KJ, et al., 2018, Non-gravitational acceleration in the trajectory of Oumuamua. *Nature*, 559, 223–226 {55}
Michtchenko TA, Ferraz-Mello S, Beaugé C, 2006, Modeling the 3d secular planetary three-body problem: discussion on the outer υ And planetary system. *Icarus*, 181, 555–571 {1}
Michtchenko TA, Malhotra R, 2004, Secular dynamics of the three-body problem: application to the υ And planetary system. *Icarus*, 168, 237–248 {1}
Migaszewski C, 2017, On the migration-induced formation of the 9:7 mean motion resonance. *MNRAS*, 469, 1131–1146 {29}
Migaszewski C, Goździewski K, 2018, A periodic configuration of the Kepler–25 planetary system. *MNRAS*, 480, 1767–1777 {29}
Migaszewski C, Goździewski K, Panichi F, 2017, The origin and 9:7 MMR dynamics of the Kepler–29 system. *MNRAS*, 465, 2366–2380 {29}
Migaszewski C, Goździewski K, Słonina M, 2013, A linear distribution of orbits in compact planetary systems? *MNRAS*, 436, L25–L29 {29}
Migaszewski C, Słonina M, Goździewski K, 2012, A dynamical analysis of the Kepler–11 system. *MNRAS*, 427, 770–789 {27}
Miglio A, Montalbán J, 2005, Constraining fundamental stellar parameters using seismology: application to α Cen AB. *A&A*, 441, 615–629 {2}
Miguel Y, Kaltenegger L, 2014, Exploring atmospheres of hot mini-Neptunes and extrasolar giant planets orbiting different stars with application to HD 97658 b, WASP–12 b, CoRoT–2 b, XO–1 b, and HD 189733 b. *ApJ*, 780, 166 {17, 19, 21, 43, 48}
Miguel Y, Kaltenegger L, Linsky JL, et al., 2015, The effect of Lyman α radiation on mini-Neptune atmospheres around M stars: application to GJ 436 b. *MNRAS*, 446, 345–353 {17}
Miles-Páez PA, Metchev S, Luhman KL, et al., 2017, The prototypical young L/T-transition dwarf HD 203030B likely has planetary mass. *AJ*, 154, 262 {53}
Millar-Blanchaer MA, Graham JR, Pueyo L, et al., 2015, β Pic inner disk in polarised light and new orbital parameters for β Pic b. *ApJ*, 811, 18 {52}
Miller BP, Gallo E, Wright JT, et al., 2012, On the detectability of star–planet interaction. *ApJ*, 754, 137 {43}
Miller GRM, Collier Cameron A, Simpson EK, et al., 2010, The Doppler shadow of WASP–3 b: a tomographic analysis of Rossiter–McLaughlin observations. *A&A*, 523, A52 {41}
Miller M, 2015, Exoplanet photometry of TrES–5 b using a DSLR camera. *Society for Astronomical Sciences Annual Symposium*, 34, 203–206 {41}
Miller-Ricci E, Fortney JJ, 2010, The nature of the atmosphere of the transiting super-Earth GJ 1214 b. *ApJ*, 716, L74–L79 {23}
Miller-Ricci E, Rowe JF, Sasselov D, et al., 2008a, MOST space-based photometry of the transiting exoplanet system HD 189733: precise timing measurements for transits across an active star. *ApJ*, 682, 593–601 {18}

—, 2008b, MOST space-based photometry of the transiting system HD 209458: transit timing to search for additional planets. *ApJ*, 682, 586–592 {20}

Miller-Ricci Kempton E, Rauscher E, 2012, Constraining high-speed winds in exoplanet atmospheres by observation of anomalous Doppler shifts during transit. *ApJ*, 751, 117 {20}

Miller-Ricci Kempton E, Zahnle K, Fortney JJ, 2012, The atmospheric chemistry of GJ 1214 b: photochemistry and clouds. *ApJ*, 745, 3 {23}

Millholland S, Laughlin G, 2018, Obliquity tides may drive WASP–12 b's rapid orbital decay. *ApJ*, 869, L15 {43}

Millholland S, Laughlin G, Teske J, et al., 2018, New constraints on GJ 876: exemplar of mean-motion resonance. *AJ*, 155, 106 {6}

Milli J, Hibon P, Christiaens V, et al., 2017, Discovery of a low-mass companion inside the debris ring surrounding the F5V star HD 206893. *A&A*, 597, L2 {53}

Milli J, Lagrange AM, Mawet D, et al., 2014, Very deep images of the innermost regions of the β Pic debris disk at L'. *A&A*, 566, A91 {52}

Milli J, Mouillet D, Mawet D, et al., 2013, Prospects of detecting the polarimetric signature of the Earth-mass planet α Cen B b with VLT–SPHERE/ZIMPOL. *A&A*, 556, A64 {2}

Mills SM, Fabrycky DC, 2017a, Kepler–108: a mutually inclined giant planet system. *AJ*, 153, 45 {32}

—, 2017b, Mass, density, and formation constraints in the compact, sub-Earth Kepler–444 system including two Mars-mass planets. *ApJ*, 838, L11 {35}

Min M, Kama M, Dominik C, et al., 2010, The lunar phases of dust grains orbiting Fomalhaut. *A&A*, 509, L6 {51}

Ming Y, Hui-Gen L, Hui Z, et al., 2013, Eight planets in four multi-planet systems via transit timing variations in 1350 days. *ApJ*, 778, 110 {31, 33, 34}

Minniti D, Butler RP, López-Morales M, et al., 2009, Low-mass companions for five solar-type stars from the Magellan planet search programme. *ApJ*, 693, 1424–1430 {7, 8, 10, 11}

Minniti D, Fernández JM, Díaz RF, et al., 2007, Millimagnitude photometry for transiting extoplanet candidates. III. Accurate radius and period for OGLE–TR–111 b. *ApJ*, 660, 858–862 {39}

Mislis D, Heller R, Schmitt JHMM, et al., 2012, Estimating transiting exoplanet masses from precise optical photometry. *A&A*, 538, A4 {24}

Mislis D, Hodgkin S, 2012, A massive exoplanet candidate around KOI–13: independent confirmation by ellipsoidal variations. *MNRAS*, 422, 1512–1517 {28}

Mislis D, Mancini L, Tregloan-Reed J, et al., 2015, High-precision multiband time series photometry of exoplanets Qatar–1 b and TrES–5 b. *MNRAS*, 448, 2617–2623 {39, 41}

Mislis D, Schmitt JHMM, 2009, Detection of orbital parameter changes in the TrES–2 exoplanet? *A&A*, 500, L45–L49 {40}

Mislis D, Schröter S, Schmitt JHMM, et al., 2010, Multi-band transit observations of TrES–2 b. *A&A*, 510, A107 {40}

Mitchell DS, Reffert S, Trifonov T, et al., 2013, Precise radial velocities of giant stars. V. A brown dwarf and a planet orbiting the K giant stars τ Gem and 91 Aqr. *A&A*, 555, A87 {1, 3}

Mittag M, Robrade J, Schmitt JHMM, et al., 2017, Four-month chromospheric and coronal activity cycle in τ Boo. *A&A*, 600, A119 {2}

Miyake N, Sumi T, Dong S, et al., 2011, A sub-Saturn mass planet, MOA–2009–BLG–319Lb. *ApJ*, 728, 120–124 {49}

Miyazaki S, Sumi T, Bennett DP, et al., 2018, MOA–2015–BLG–337: a planetary system with a low-mass brown dwarf/planetary boundary host, or a brown dwarf binary. *AJ*, 156, 136 {49}

Mizuki T, Yamada T, Carson JC, et al., 2016, High-contrast imaging of ϵ Eri with ground-based instruments. *A&A*, 595, A79 {3}

Mohanty S, Jayawardhana R, Huélamo N, et al., 2007, The planetary mass companion 2M J1207: evidence for an edge-on disk. *ApJ*, 657, 1064–1091 {54}

Mohler-Fischer M, Mancini L, Hartman JD, et al., 2013, HATS–2 b: a transiting extrasolar planet orbiting a K-type star showing star spot activity. *A&A*, 558, A55 {26}

Moldovan R, Matthews JM, Gladman B, et al., 2010, Searching for Trojan asteroids in the HD 209458 system: MOST photometry and dynamical modeling. *ApJ*, 716, 315–323 {20}

Monin JL, Whelan ET, Lefloch B, et al., 2013, A molecular outflow driven by the brown dwarf binary FU Tau. *A&A*, 551, L1 {52}

Montalto M, Gregorio J, Boué G, et al., 2012, A new analysis of the WASP–3 system: no evidence for an additional companion. *MNRAS*, 427, 2757–2771 {42}

Montalto M, Iro N, Santos NC, et al., 2015, Further constraints on the optical transmission spectrum of HAT–P–1 b. *ApJ*, 811, 55 {23}

Montalto M, Santos NC, Boisse I, et al., 2011, Exoplanet transmission spectroscopy: accounting for the eccentricity and the longitude of periastron. Superwinds in the upper atmosphere of HD 209458 b? *A&A*, 528, L17 {20}

Montet BT, Bowler BP, Shkolnik EL, et al., 2015a, Dynamical masses of young M dwarfs: masses and orbital parameters of GJ 3305 AB, the wide binary companion to the imaged exoplanet host 51 Eri. *ApJ*, 813, L11 {51}

Montet BT, Johnson JA, 2013, Model-independent stellar and planetary masses from multi-transiting exoplanetary systems. *ApJ*, 762, 112 {28}

Montet BT, Morton TD, Foreman-Mackey D, et al., 2015b, Stellar and planetary properties of K2 campaign 1 candidates and validation of 17 planets, including a planet receiving Earth-like insolation. *ApJ*, 809, 25 {37}

Montet BT, Simon JD, 2016, KIC–8462852 faded throughout the Kepler mission. *ApJ*, 830, L39 {36}

Moore A, Hasan I, Quillen AC, 2013, Limits on orbit crossing planetesimals in the resonant multiple planet system, KOI–730. *MNRAS*, 432, 1196–1202 {33}

Moore A, Quillen AC, 2013, Effects of a planetesimal debris disk on stability scenarios for the extrasolar planetary system HR 8799. *MNRAS*, 430, 320–329 {53}

Morais MHM, Correia ACM, 2012, Precession due to a close binary system: an alternative explanation for ν Oct? *MNRAS*, 419, 3447–3456 {3}

Moran SE, Hörst SM, Batalha NE, et al., 2018, Limits on clouds and hazes for the TRAPPIST–1 planets. *AJ*, 156, 252 {40}

Moran SM, Kuchner MJ, Holman MJ, 2004, The dynamical influence of a planet at semi-major axis 3.4 au on the dust around ϵ Eri. *ApJ*, 612, 1163–1170 {3}

Mordasini C, Mayor M, Udry S, et al., 2011, The HARPS search for southern extrasolar planets. XXIV. Companions to HD 85390, HD 90156, and HD 103197: a Neptune analogue and two intermediate-mass planets. *A&A*, 526, A111 {9, 10}

Morello G, 2018, A SEA BASS on the exoplanet HD 209458 b. *AJ*, 156, 175 {21}

Morello G, Waldmann IP, Tinetti G, et al., 2014, A new look at Spitzer primary transit observations of the exoplanet HD 189733 b. *ApJ*, 786, 22 {19}

—, 2015, Revisiting Spitzer transit observations with independent component analysis: new results for the GJ 436 system. *ApJ*, 802, 117 {17}

Morley CV, Fortney JJ, Kempton EMR, et al., 2013, Quantitatively assessing the role of clouds in the transmission spectrum of GJ 1214 b. *ApJ*, 775, 33 {23}

Morley CV, Knutson H, Line M, et al., 2017a, Forward and inverse modeling of the emission and transmission spectrum of GJ 436 b: investigating metal enrichment, tidal heating, and clouds. *AJ*, 153, 86 {17}

Morley CV, Kreidberg L, Rustamkulov Z, et al., 2017b, Observing the atmospheres of known temperate Earth-sized planets with JWST. *ApJ*, 850, 121 {23, 40}

Moro-Martín A, 2018a, Origin of Oumuamua. I. An ejected protoplanetary disk object? *ApJ*, 866, 131 {55}

—, 2018b, Origin of Oumuamua. II. An ejected exo-Oort cloud object? *arXiv e-prints* {55}

Moro-Martín A, Malhotra R, Bryden G, et al., 2010a, Locating planetesimal belts in the multiple-planet systems HD 128311, HD 202206, HD 82943, and HR 8799. *ApJ*, 717, 1123–1139 {9, 10, 12, 53}

Moro-Martín A, Malhotra R, Carpenter JM, et al., 2007, The dust, planetesimals, and planets of HD 38529. *ApJ*, 668, 1165–1173 {8}

Moro-Martín A, Rieke GH, Su KYL, 2010b, Could the planets around HR 8799 be brown dwarfs? *ApJ*, 721, L199–L202 {53}

Morris BM, Agol E, Davenport JRA, et al., 2018a, Possible bright star spots on TRAPPIST–1. *ApJ*, 857, 39 {40}

Morris BM, Agol E, Hawley SL, 2018b, Photometric analysis and transit times of TRAPPIST–1 b and c. *RNAAS*, 2, 10 {40}

Morris BM, Agol E, Hebb L, et al., 2018c, Non-detection of contamination by stellar activity in the Spitzer transit light curves of TRAPPIST–1. *ApJ*, 863, L32 {40}

—, 2018d, Robust transiting exoplanet radii in the presence of star spots from ingress and egress durations. *AJ*, 156, 91 {17, 28, 34}

Morris BM, Hawley SL, Hebb L, 2018e, Large star spot groups on HAT–P–11 in activity cycle 1. *RNAAS*, 2, 26 {24}

Morris BM, Hawley SL, Hebb L, et al., 2017a, Chromospheric activity of HAT–P–11: an unusually active planet-hosting K star. *ApJ*, 848, 58 {24}

Morris BM, Hebb L, Davenport JRA, et al., 2017b, The star spots of HAT–P–11: evidence for a solar-like dynamo. *ApJ*, 846, 99 {24}

Morris BM, Mandell AM, Deming D, 2013, Kepler's optical secondary eclipse of HAT–P–7 b and probable detection of planet-induced stellar gravity darkening. *ApJ*, 764, L22 {24}

Morrison SJ, Kratter KM, 2016, Orbital stability of multi-planet systems: behaviour at high masses. *ApJ*, 823, 118 {53}

Mortier A, Bonomo AS, Rajpaul VM, et al., 2018, K2–263 b: a 50-d period sub-Neptune with a mass measurement using HARPS–N. *MNRAS*, 481, 1839–1847 {38}

Mortier A, Faria JP, Santos NC, et al., 2016, The HARPS search for southern extrasolar planets. XXXIX. HD 175607, the most metal-poor G dwarf with an orbiting sub-Neptune. *A&A*, 585, A135 {12}

Morton TD, Bryson ST, Coughlin JL, et al., 2016, False positive probabilities for all Kepler Objects of Interest: 1284 newly validated planets and 428 likely false positives. *ApJ*, 822, 86 {30, 31, 32, 33, 34, 35, 36}

Morzinski KM, Males JR, Skemer AJ, et al., 2015, Magellan adaptive optics first-light observations of the exoplanet β Pic b. II. 3–5 μm direct imaging with MagAO+Clio, and the empirical bolometric luminosity of a self-luminous giant planet. *ApJ*, 815, 108 {52}

Moses JI, Line MR, Visscher C, et al., 2013a, Compositional diversity in the atmospheres of hot Neptunes, with application to GJ 436 b. *ApJ*, 777, 34 {17}

Moses JI, Madhusudhan N, Visscher C, et al., 2013b, Chemical consequences of the C/O ratio on hot Jupiters: WASP–12 b, CoRoT–2 b, XO–1 b, and HD 189733 b. *ApJ*, 763, 25 {19, 21, 43, 48}

Moses JI, Marley MS, Zahnle K, et al., 2016, On the composition of young, directly imaged giant planets. *ApJ*, 829, 66 {51, 53}

Moses JI, Visscher C, Fortney JJ, et al., 2011, Disequilibrium carbon, oxygen, and nitrogen chemistry in the atmospheres of HD 189733 b and HD 209458 b. *ApJ*, 737, 15 {18, 20}

Motalebi F, Udry S, Gillon M, et al., 2015, The HARPS–N Rocky Planet Search. I. HD 219134 b: a transiting rocky planet in a multi-planet system at 6.5 pc from the Sun. *A&A*, 584, A72 {21}

Mouillet D, Larwood JD, Papaloizou JCB, et al., 1997, A planet on an inclined orbit as an explanation of the warp in the β Pic disk. *MNRAS*, 292, 896 {52}

Mousis O, Lunine JI, Petit JM, et al., 2011, On the volatile enrichment and heavy elements in HD 189733 b. *ApJ*, 727, 77 {18}

Mousis O, Lunine JI, Tinetti G, et al., 2009, Elemental abundances and minimum mass of heavy elements in the envelope of HD 189733 b. *A&A*, 507, 1671–1674 {18}

Moutou C, Almenara JM, Díaz RF, et al., 2014a, CoRoT–22 b: a validated $4.9R_\oplus$ exoplanet in 10-d orbit. *MNRAS*, 444, 2783–2792 {22}

Moutou C, Bruntt H, Guillot T, et al., 2008, Transiting exoplanets from the CoRoT space mission. V. CoRoT–4 b: stellar and planetary parameters. *A&A*, 488, L47–L50 {22}

Moutou C, Coustenis A, Schneider J, et al., 2001, Search for spectroscopical signatures of transiting HD 209458 b exosphere. *A&A*, 371, 260–266 {19}

—, 2003, Searching for helium in the exosphere of HD 209458 b. *A&A*, 405, 341–348 {19}

Moutou C, Díaz RF, Udry S, et al., 2011a, Spin–orbit inclinations of the exoplanetary systems HAT–P–8 b, HAT–P–9 b, HAT–P–16 b, and HAT–P–23 b. *A&A*, 533, A113

{24, 25}
Moutou C, Donati JF, Lin D, et al., 2016, The magnetic properties of the star Kepler–78. *MNRAS*, 459, 1993–2007 {31}
Moutou C, Donati JF, Savalle R, et al., 2007, Spectropolarimetric observations of the transiting planetary system of the K dwarf HD 189733. *A&A*, 473, 651–660 {18}
Moutou C, Hébrard G, Bouchy F, et al., 2009a, Photometric and spectroscopic detection of the primary transit of the 111-day period planet HD 80606 b. *A&A*, 498, L5–L8 {17}
—, 2014b, The SOPHIE search for northern extrasolar planets. VI. Three new hot Jupiters in multi-planet extrasolar systems. *A&A*, 563, A22 {7, 11, 13}
Moutou C, Lo Curto G, Mayor M, et al., 2015, The HARPS search for southern extrasolar planets. XXXVII. Five new long-period giant planets and a system update. *A&A*, 576, A48 {4, 6, 7, 10}
Moutou C, Loeillet B, Bouchy F, et al., 2006, ELODIE metallicity-biased search for transiting hot Jupiters. IIII. A hot Jupiter orbiting the star HD 185269. *A&A*, 458, 327–329 {12}
Moutou C, Mayor M, Bouchy F, et al., 2005, The HARPS search for southern extrasolar planets. IV. Three close-in planets around HD 2638, HD 27894 and HD 63454. *A&A*, 439, 367–373 {6, 7, 8}
Moutou C, Mayor M, Lo Curto G, et al., 2009b, The HARPS search for southern extrasolar planets. XV. Six long-period giant planets around BD–17 63, HD 20868, HD 73267, HD 131664, HD 145377, and HD 153950. *A&A*, 496, 513–519 {4, 7, 9, 10, 11}
—, 2011b, The HARPS search for southern extrasolar planets. XXVII. Seven new planetary systems. *A&A*, 527, A63 {6, 7, 10, 13}
Moutou C, Pont F, Bouchy F, et al., 2004, Accurate radius and mass of the transiting exoplanet OGLE–TR–132 b. *A&A*, 424, L31–L34 {39}
Moutou C, Vigan A, Mesa D, et al., 2017, Eccentricity in planetary systems and the role of binarity: sample definition, initial results, and the system of HD 211847. *A&A*, 602, A87 {6}
Močnik T, Anderson DR, Brown DJA, et al., 2016a, WASP–157 b, a transiting hot Jupiter observed with K2. *PASP*, 128(12), 124403 {47}
Močnik T, Clark BJM, Anderson DR, et al., 2016b, Star spots on WASP–85. *AJ*, 151, 150 {46}
Močnik T, Hellier C, Anderson DR, 2017a, K2 looks towards WASP–28 and WASP–151 [unpublished]. *ArXiv e-prints* {44, 47}
—, 2018a, Ephemeris refinement of a hot Jupiter K2–140 b. *RNAAS*, 2, 22 {38}
Močnik T, Hellier C, Anderson DR, et al., 2017b, Star spots on WASP–107 and pulsations of WASP–118. *MNRAS*, 469, 1622–1629 {47}
Močnik T, Hellier C, Southworth J, 2018b, WASP–104 b is darker than charcoal. *AJ*, 156, 44 {47}
Močnik T, Southworth J, Hellier C, 2017c, Recurring sets of recurring star spot occultations on exoplanet host Qatar–2. *MNRAS*, 471, 394–403 {39}
Moya A, Amado PJ, Barrado D, et al., 2010a, Age determination of the HR 8799 planetary system using asteroseismology. *MNRAS*, 405, L81–L85 {53}
—, 2010b, The planetary system host HR 8799: on its λ Boo nature. *MNRAS*, 406, 566–575 {53}
Moya A, Bouy H, Marchis F, et al., 2011, High spatial resolution imaging of the star with a transiting planet WASP–33. *A&A*, 535, A110 {44}
Moyano M, Almeida LA, von Essen C, et al., 2017, Multi-band characterisation of the hot Jupiters: WASP–5 b, WASP–44 b and WASP–46 b. *MNRAS*, 471, 650–657 {42, 45}
Mróz P, Han C, and, et al., 2017a, OGLE–2016–BLG–0596L b: a high-mass planet from a high-magnification pure-survey microlensing event. *AJ*, 153, 143 {50}
Mróz P, Ryu YH, Skowron J, et al., 2018, A Neptune-mass free-floating planet candidate discovered by microlensing surveys. *AJ*, 155, 121 {50}
Mróz P, Udalski A, Bond IA, et al., 2017b, OGLE–2013–BLG–0132L b and OGLE–2013–BLG–1721L b: two Saturn-mass planets discovered around M dwarfs. *AJ*, 154, 205 {50}
Mugrauer M, Dinçel B, 2016, Follow-up spectroscopic observations of HD 107148B: a new white dwarf companion of an exoplanet host star. *Astron. Nach.*, 337, 627 {10}
Mugrauer M, Ginski C, 2015, High-contrast imaging search for stellar and substellar companions of exoplanet host stars. *MNRAS*, 450, 3127–3136 {9, 11}
Mugrauer M, Ginski C, Seeliger M, 2014, New wide stellar companions of exoplanet host stars. *MNRAS*, 439, 1063–1070 {10}
Mugrauer M, Neuhaeuser R, Guenther E, et al., 2005a, The multiplicity of exoplanet host stars. *Astron. Nach.*, 326, 629–630 {4}
Mugrauer M, Neuhäuser R, 2009, The multiplicity of exoplanet host stars. New low-mass stellar companions of the exoplanet host stars HD 125612 and HD 212301. *A&A*, 494, 373–378 {10, 13}
Mugrauer M, Neuhäuser R, Mazeh T, 2007, The multiplicity of exoplanet host stars: spectroscopic confirmation of the companions GJ 3021 B and HD 27442 B, one new planet host triple-star system, and global statistics. *A&A*, 469, 755–770 {6, 7}
Mugrauer M, Neuhäuser R, Mazeh T, et al., 2004a, Astrometric confirmation of a wide low-mass companion to the planet host star HD 89744. *Astron. Nach.*, 325, 718–722 {9}
—, 2004b, A low-mass stellar companion of the planet host star HD 75289. *A&A*, 425, 249–253 {9}
Mugrauer M, Neuhäuser R, Seifahrt A, et al., 2005b, Four new wide binaries among exoplanet host stars. *A&A*, 440, 1051–1060 {7, 10, 12, 13}
Mugrauer M, Seifahrt A, Neuhäuser R, et al., 2006, HD 3651B: the first directly imaged brown dwarf companion of an exoplanet host star. *MNRAS*, 373, L31–L35 {6}
Muirhead PS, Johnson JA, Apps K, et al., 2012, Characterising the cool KOIs. III. KOI–961: a small star with large proper motion and three small planets. *ApJ*, 747, 144 {30}
Muirhead PS, Mann AW, Vanderburg A, et al., 2015, Kepler–445, Kepler–446 and the occurrence of compact multiples orbiting mid-M dwarf stars. *ApJ*, 801, 18 {35}
Mullally F, Thompson SE, Coughlin JL, et al., 2018, Kepler's Earth-like planets should not be confirmed without independent detection: the case of Kepler–452 b. *AJ*, 155, 210 {35}
Mullan DJ, MacDonald J, Dieterich S, et al., 2018, Magnetic fields on the flare star TRAPPIST–1: consequences for radius inflation and planetary habitability. *ApJ*, 869, 149 {40}
Müller A, Roccatagliata V, Henning T, et al., 2013, Reanalysis of the FEROS observations of HIP 11952. *A&A*, 556, A3 {13}
Müller TWA, Kley W, 2012, Circumstellar disks in binary star systems: models for γ Cep and α Cen. *A&A*, 539, A18 {2, 3}
Mura A, Wurz P, Schneider J, et al., 2011, Comet-like tail-formation of exospheres of hot rocky exoplanets: possible implications for CoRoT–7 b. *Icarus*, 211, 1–9 {22}
Muraki Y, Han C, Bennett DP, et al., 2011, Discovery and mass measurements of a cold, $10M_\oplus$ planet and its host star. *ApJ*, 741, 22 {49}
Murgas F, Pallé E, Cabrera-Lavers A, et al., 2012, Narrow-band Hα photometry of the super-Earth GJ 1214 b with GTC–OSIRIS tunable filters. *A&A*, 544, A41 {23}
Murgas F, Pallé E, Parviainen H, et al., 2017, The GTC exoplanet transit spectroscopy survey. VII. An optical transmission spectrum of WASP–48 b. *A&A*, 605, A114 {45}
Murgas F, Pallé E, Zapatero Osorio MR, et al., 2014, The GTC exoplanet transit spectroscopy survey. I. OSIRIS transmission spectroscopy of the short period planet WASP–43 b. *A&A*, 563, A41 {45}
Muro-Arena GA, Dominik C, Waters LBFM, et al., 2018, Dust modeling of the combined ALMA and VLT–SPHERE datasets of HD 163296: is HD 163296 really a Meeus group II disk? *A&A*, 614, A24 {11}
Murphy SJ, Bedding TR, Shibahashi H, 2016, A planet in an 840-d orbit around a Kepler main-sequence A star found from phase modulation of its pulsations. *ApJ*, 827, L17 {36}
Murphy T, Bell ME, Kaplan DL, et al., 2015, Limits on low-frequency radio emission from southern exoplanets with the Murchison Widefield Array. *MNRAS*, 446, 2560–2565 {3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 44}
Musielak ZE, Cuntz M, Marshall EA, et al., 2005, Stability of planetary orbits in binary systems. *A&A*, 434, 355–364 {2, 4, 12}
Mustill AJ, Davies MB, Johansen A, 2017, The effects of external planets on inner systems: multiplicities, inclinations and pathways to eccentric warm Jupiters. *MNRAS*, 468, 3000–3023 {30, 32}
Mustill AJ, Wyatt MC, 2012, Dependence of a planet's chaotic zone on particle eccentricity: the shape of debris disk inner edges. *MNRAS*, 419, 3074–3080 {53}
Mutter MM, Pierens A, Nelson RP, 2017, The role of disk self-gravity in circumbinary planet systems. I. Disk structure and evolution. *MNRAS*, 465, 4735–4752 {28, 29}
Naef D, Latham DW, Mayor M, et al., 2001a, HD 80606 b, a planet on an extremely elongated orbit. *A&A*, 375, L27–L30 {17}
Naef D, Mayor M, Benz W, et al., 2007, The HARPS search for southern extrasolar planets. IX. Exoplanets orbiting HD 100777, HD 190647, and HD 221287. *A&A*, 470, 721–726 {10, 12, 13}
Naef D, Mayor M, Beuzit JL, et al., 2004, The ELODIE survey for northern extrasolar planets. III. Three planetary candidates detected with ELODIE. *A&A*, 414, 351–359 {1, 3, 4, 9, 12, 16}
Naef D, Mayor M, Korzennik SG, et al., 2003, The ELODIE survey for northern extrasolar planets. II. A Jovian planet on a long-period orbit around GJ 777 A. *A&A*, 410, 1051–1054 {12}
Naef D, Mayor M, Lo Curto G, et al., 2010, The HARPS search for southern extrasolar planets. XXIII. Eight planetary companions to low-activity solar-type stars. *A&A*, 523, A15 {6, 7, 8, 11, 13}
Naef D, Mayor M, Pepe F, et al., 2001b, The CORALIE survey for southern extrasolar planets. V. Three new extrasolar planets. *A&A*, 375, 205–218 {6, 8, 11}
Nagakane M, Sumi T, Koshimoto N, et al., 2017, MOA–2012–BLG–505L b: a super-Earth-mass planet that probably resides in the Galactic bulge. *AJ*, 154, 35 {49}
Nagasawa M, Lin DNC, 2005, The dynamical evolution of the short-period extrasolar planet around υ And in the pre-main-sequence stage. *ApJ*, 632, 1140–1156 {1}
Nagy I, Ágas M, 2013, Stability of the Kepler–36 two-planet system. *Astron. Nach.*, 334, 992 {29}
Narita N, Enya K, Sato B, et al., 2007, Measurement of the Rossiter–McLaughlin effect in the transiting exoplanetary system TrES–1. *PASJ*, 59, 763–770 {40}
Narita N, Fukui A, Ikoma M, et al., 2013a, Multi-colour transit photometry of GJ 1214 b through BJHKs bands and a long-term monitoring of the stellar variability of GJ 1214. *ApJ*, 773, 144 {23}
Narita N, Hirano T, Fukui A, et al., 2015, Characterisation of the K2–19 multiple-transiting planetary system via high-dispersion spectroscopy, AO imaging, and transit timing variations. *ApJ*, 815, 47 {37}
—, 2017, The K2–ESPRINT project. VI. K2–105 b, a hot Neptune around a metal-rich G-dwarf. *PASJ*, 69, 29 {38}
Narita N, Hirano T, Sanchis-Ojeda R, et al., 2010a, The Rossiter–McLaughlin effect of the transiting exoplanet XO–4 b. *PASJ*, 62, L61 {48}
Narita N, Hirano T, Sato B, et al., 2009a, Improved measurement of the Rossiter–McLaughlin effect in the exoplanetary system HD 17156. *PASJ*, 61, 991–997 {17}
—, 2011, XO–2 b: a prograde planet with negligible eccentricity and an additional radial velocity variation. *PASJ*, 63, L67–L71 {48}
Narita N, Kudo T, Bergfors C, et al., 2010b, Search for outer massive bodies around transiting planetary systems: candidate faint stellar companions around HAT–P–7. *PASJ*, 62, 779–783 {24}
Narita N, Nagayama T, Suenaga T, et al., 2013b, IRSF–SIRIUS JHKs simultaneous transit photometry of GJ 1214 b. *PASJ*, 65, 27 {23}
Narita N, Sato B, Hirano T, et al., 2009b, First evidence of a retrograde orbit of a transiting exoplanet HAT–P–7 b. *PASJ*, 61, L35–L40 {24}
—, 2010c, Spin–orbit alignment of the TrES–4 transiting planetary system and possible additional radial-velocity variation. *PASJ*, 62, 653–660 {41}
Narita N, Sato B, Ohshima O, et al., 2008, A possible spin–orbit misalignment in the transiting eccentric planet HD 17156b. *PASJ*, 60, L1–L5 {17}
Narita N, Suto Y, Winn JN, et al., 2005, Subaru–HDS transmission spectroscopy of the transiting extrasolar planet HD 209458 b. *PASJ*, 57, 471–480 {20}
Narita N, Takahashi YH, Kuzuhara M, et al., 2012, A common proper motion stellar companion to HAT–P–7. *PASJ*, 64, L7 {24}

Nascimbeni V, Cunial A, Murabito S, et al., 2013a, TASTE. III. A study of transit time variations in WASP–3 b. *A&A*, 549, A30 {42}

Nascimbeni V, Piotto G, Bedin LR, et al., 2011a, TASTE. I. The Asiago search for transit timing variations of exoplanets: overview and improved parameters for HAT–P–3 b and HAT–P–14 b. *A&A*, 527, A85 {24, 25}

—, 2011b, TASTE. II. A new observational study of transit time variations in HAT–P–13 b. *A&A*, 532, A24 {25}

Nascimbeni V, Piotto G, Pagano I, et al., 2013b, The blue sky of GJ 3470 b: the atmosphere of a low-mass planet unveiled by ground-based photometry. *A&A*, 559, A32 {17}

Naud ME, Artigau É, Malo L, et al., 2014, Discovery of a wide planetary-mass companion to the young M3 star GU Psc. *ApJ*, 787, 5 {52}

Naud ME, Artigau É, Rowe JF, et al., 2017, A search for photometric variability in the young T3.5 planetary-mass companion GU Psc b. *AJ*, 154, 138 {52}

Nefs SV, Snellen IAG, de Mooij EJW, 2012, Minimising follow-up for space-based transit surveys using full light curve analysis. *A&A*, 543, A63 {21, 22}

Nelson BE, Ford EB, Wright JT, et al., 2014, The 55 Cnc planetary system: self-consistent N-body constraints and a dynamical analysis. *MNRAS*, 441, 442–451 {16}

Nelson BE, Robertson PM, Payne MJ, et al., 2016, An empirically derived three-dimensional Laplace resonance in the GJ 876 planetary system. *MNRAS*, 455, 2484–2499 {6}

Nero D, Bjorkman JE, 2009, Did Fomalhaut, HR 8799, and HL Tau form planets via the gravitational instability? Placing limits on the required disk masses. *ApJ*, 702, L163–L167 {51, 53}

Neslušan L, Budaj J, 2017, Mysterious eclipses in the light curve of KIC–8462852: a possible explanation. *A&A*, 600, A86 {36}

Nespral D, Gandolfi D, Deeg HJ, et al., 2017, Mass determination of K2–19 b and K2–19 c from radial velocities and transit timing variations. *A&A*, 601, A128 {37}

Nesvold ER, Kuchner MJ, 2015a, A SMACK model of colliding planetesimals in the β Pic debris disk. *ApJ*, 815, 61 {52}

—, 2015b, Gap clearing by planets in a collisional debris disk. *ApJ*, 798, 83 {51, 52}

Nesvold ER, Naoz S, Fitzgerald MP, 2017, HD 106906: a case study for external perturbations of a debris disk. *ApJ*, 837, L6 {53}

Nesvorný D, Kipping D, Terrell D, et al., 2013, KOI–142, the king of transit variations, is a pair of planets near the 2:1 resonance. *ApJ*, 777, 3 {31}

—, 2014, Photo-dynamical analysis of three Kepler Objects of Interest with significant transit timing variations. *ApJ*, 790, 31 {33}

Nesvorný D, Kipping DM, Buchhave LA, et al., 2012, The detection and characterisation of a non-transiting planet by transit timing variations. *Science*, 336, 1133–1135 {30}

Nesvorný D, Vokrouhlický D, 2014, The effect of conjunctions on the transit timing variations of exoplanets. *ApJ*, 790, 58 {29, 33}

Nettelmann N, Fortney JJ, Kramm U, et al., 2011, Thermal evolution and structure models of the transiting super-Earth GJ 1214 b. *ApJ*, 733, 2 {23}

Nettelmann N, Kramm U, Redmer R, et al., 2010, Interior structure models of GJ 436 b. *A&A*, 523, A26 {16}

Neubauer D, Vrtala A, Leitner JJ, et al., 2012, The life supporting zone of Kepler–22 b and the Kepler planetary candidates: KOI–268.01, KOI–701.03, KOI–854.01 and KOI–1026.01. *Planet. Space Sci.*, 73, 397–406 {28}

Neuhäuser R, Guenther EW, Wuchterl G, et al., 2005, Evidence for a co-moving sub-stellar companion of GQ Lup. *A&A*, 435, L13–L16 {52}

Neuhäuser R, Hohle MM, Ginski C, et al., 2015, The companion candidate near Fomalhaut: a background neutron star? *MNRAS*, 448, 376–389 {51}

Neuhäuser R, Mugrauer M, Fukagawa M, et al., 2007, Direct detection of exoplanet host star companion γ Cep B and revised masses for both stars and the sub-stellar object. *A&A*, 462, 777–780 {2}

Neuhäuser R, Mugrauer M, Seifahrt A, et al., 2008, Astrometric and photometric monitoring of GQ Lup and its sub-stellar companion. *A&A*, 484, 281–291 {52}

Neveu-VanMalle M, Queloz D, Anderson DR, et al., 2014, WASP–94 A and B planets: hot-Jupiter cousins in a twin-star system. *A&A*, 572, A49 {46}

—, 2016, Hot Jupiters with relatives: discovery of additional planets in orbit around WASP–41 and WASP–47. *A&A*, 586, A93 {45}

Ngo H, Knutson HA, Bryan ML, et al., 2017, No difference in orbital parameters of radial velocity-detected giant planets between 0.1–5 au in single versus multi-stellar systems. *AJ*, 153, 242 {7, 8, 9, 10, 11, 13}

Nichols JD, 2012, Candidates for detecting exoplanetary radio emissions generated by magnetosphere–ionosphere coupling. *MNRAS*, 427, L75–L79 {3}

Nichols JD, Wynn GA, Goad M, et al., 2015, HST observations of the near ultraviolet transit of WASP–12 b. *ApJ*, 803, 9 {43}

Nicholson BA, Vidotto AA, Mengel M, et al., 2016, Temporal variability of the wind from the star τ Boo. *MNRAS*, 459, 1907–1915 {2}

Niedzielski A, Goździewski K, Wolszczan A, et al., 2009a, A planet in a 0.6 au orbit around the K0 giant HD 102272. *ApJ*, 693, 276–280 {10}

Niedzielski A, Konacki M, Wolszczan A, et al., 2007, A planetary-mass companion to the K0 giant HD 17092. *ApJ*, 669, 1354–1358 {7}

Niedzielski A, Nowak G, Adamów M, et al., 2009b, Substellar-mass companions to the K-dwarf BD+14 4559 and the K-giants HD 240210 and BD+20 2457. *ApJ*, 707, 768–777 {4, 13}

Niedzielski A, Villaver E, Nowak G, et al., 2016a, Tracking Advanced Planetary Systems (TAPAS) with HARPS–N. III. HD 5583 and BD+15 2375: two cool giants with warm companions. *A&A*, 588, A62 {4, 6}

—, 2016b, Tracking Advanced Planetary Systems (TAPAS) with HARPS–N. IV. TYC 3667–1280–1: the most massive red giant star hosting a warm Jupiter. *A&A*, 589, L1 {14}

Niedzielski A, Villaver E, Wolszczan A, et al., 2015a, Tracking Advanced Planetary Systems (TAPAS) with HARPS–N. I. A multiple planetary system around the red giant star TYC 1422–614–1. *A&A*, 573, A36 {14}

Niedzielski A, Wolszczan A, Nowak G, et al., 2015b, Three red giants with substellar-mass companions. *ApJ*, 803, 1 {4, 9, 13}

Nielsen EL, De Rosa RJ, Rameau J, et al., 2017, Evidence that the directly imaged planet HD 131399A b is a background star. *AJ*, 154, 218 {53}

Nielsen EL, Liu MC, Wahhaj Z, et al., 2014, The Gemini–NICI planet-finding campaign: the orbit of the young exoplanet β Pic b. *ApJ*, 794, 158 {52}

Nikolov N, Chen G, Fortney JJ, et al., 2013, Refined physical properties and g′, r′, i′, z′, J, H, K transmission spectrum of WASP–23 b from the ground. *A&A*, 553, A26 {44}

Nikolov N, Henning T, Koppenhoefer J, et al., 2012, WASP–4 b transit observations with GROND. *A&A*, 539, A159 {42}

Nikolov N, Sing DK, Burrows AS, et al., 2015, HST hot-Jupiter transmission spectral survey: haze in the atmosphere of WASP–6 b. *MNRAS*, 447, 463–478 {42}

Nikolov N, Sing DK, Fortney JJ, et al., 2018a, An absolute sodium abundance for a cloud-free 'hot Saturn' exoplanet. *Nature*, 557, 526–529 {46}

Nikolov N, Sing DK, Gibson NP, et al., 2016, VLT FORS2 comparative transmission spectroscopy: detection of Na in the atmosphere of WASP–39 b from the ground. *ApJ*, 832, 191 {45}

Nikolov N, Sing DK, Goyal J, et al., 2018b, Hubble PanCET: an isothermal day-side atmosphere for the bloated gas-giant HAT–P–32A b. *MNRAS*, 474, 1705–1717 {25}

Nikolov N, Sing DK, Pont F, et al., 2014, HST hot Jupiter transmission spectral survey: a detection of Na and strong optical absorption in HAT–P–1 b. *MNRAS*, 437, 46–66 {23}

Nilsson R, Brandeker A, Olofsson G, et al., 2012, VLT imaging of the β Pic gas disk. *A&A*, 544, A134 {52}

Niraula P, Redfield S, Dai F, et al., 2017, Three super-Earths transiting the nearby star GJ 9827. *AJ*, 154, 266 {38}

Nortmann L, Pallé E, Murgas F, et al., 2016, The GTC exoplanet transit spectroscopy survey. IV. Confirmation of the flat transmission spectrum of HAT–P–32 b. *A&A*, 594, A65 {25}

Nortmann L, Pallé E, Salz M, et al., 2018, Ground-based detection of an extended helium atmosphere in the Saturn-mass exoplanet WASP–69 b. *Science*, 362, 1388–1391 {46}

Nowak G, Niedzielski A, Wolszczan A, et al., 2013, BD+15 2940 and HD 233604: two giants with planets close to the engulfment zone. *ApJ*, 770, 53 {4, 13}

Noyes RW, Bakos GÁ, Torres G, et al., 2008, HAT–P–6 b: a hot Jupiter transiting a bright F star. *ApJ*, 673, L79–L82 {24}

Noyes RW, Jha S, Korzennik SG, et al., 1997, A planet orbiting the star ρ CrB. *ApJ*, 483, L111–L114 {3}

Noyola JP, Satyal S, Musielak ZE, 2014, Detection of exomoons through observation of radio emissions. *ApJ*, 791, 25 {3, 5}

Nucita AA, Licchelli D, De Paolis F, et al., 2018, Discovery of a bright microlensing event with planetary features towards the Taurus region: a super-Earth planet. *MNRAS*, 476, 2962–2967 {50}

Nugroho SK, Kawahara H, Masuda K, et al., 2017, High-resolution spectroscopic detection of TiO and a stratosphere in the day-side of WASP–33 b. *AJ*, 154, 221 {45}

Nutzman P, Charbonneau D, Winn JN, et al., 2009, A precise estimate of the radius of the exoplanet HD 149026 b from Spitzer photometry. *ApJ*, 692, 229–235 {18}

Nutzman P, Fabrycky DC, Fortney JJ, 2011a, Using star spots to measure the spin–orbit alignment of transiting planets. *ApJ*, 740, L10 {21}

Nutzman P, Gilliland RL, McCullough PR, et al., 2011b, Precise estimates of the physical parameters for the exoplanet system HD 17156 enabled by HST–FGS transit and asteroseismic observations. *ApJ*, 726, 3 {17}

Nymeyer S, Harrington J, Hardy RA, et al., 2011, Spitzer secondary eclipses of WASP–18 b. *ApJ*, 742, 35 {43}

Öberg KI, Murray-Clay RA, Bergin EA, 2011, The effects of snow lines on C/O in planetary atmospheres. *ApJ*, 743, L16 {42}

Obermeier C, Henning T, Schlieder JE, et al., 2016, K2 discovers a busy bee: an unusual transiting Neptune found in the Beehive Cluster. *AJ*, 152, 223 {38}

Oberst TE, Rodriguez JE, Colón KD, et al., 2017, KELT–16 b: a highly irradiated, ultra-short period hot Jupiter nearing tidal disruption. *AJ*, 153, 97 {27}

O'Donovan FT, Charbonneau D, Bakos GÁ, et al., 2007, TrES–3: a nearby, massive, transiting hot Jupiter in a 31-hour orbit. *ApJ*, 663, L37–L40 {41}

O'Donovan FT, Charbonneau D, Harrington J, et al., 2010, Detection of planetary emission from the exoplanet Tres–2 using Spitzer–IRAC. *ApJ*, 710, 1551–1556 {40}

O'Donovan FT, Charbonneau D, Mandushev G, et al., 2006, TrES–2: the first transiting planet in the Kepler field. *ApJ*, 651, L61–L64 {40}

Ofir A, Dreizler S, 2013, An independent planet search in the Kepler dataset. I. One hundred new candidates and revised Kepler objects of interest. *A&A*, 555, A58 {29, 31, 32, 33, 35}

Ofir A, Dreizler S, Zechmeister M, et al., 2014, An independent planet search in the Kepler dataset. II. An extremely low-density super-Earth mass planet around Kepler–87. *A&A*, 561, A103 {31}

O'Gorman E, Coughlan CP, Vlemmings W, et al., 2018, A search for radio emission from exoplanets around evolved stars. *A&A*, 612, A52 {4, 8, 13}

Ohno K, Okuzumi S, 2018, Microphysical modeling of mineral clouds in GJ 1214 b and GJ 436 b: predicting upper limits on the cloud-top height. *ApJ*, 859, 34 {17, 23}

Okamoto YK, Kataza H, Honda M, et al., 2004, An early extrasolar planetary system revealed by planetesimal belts in β Pic. *Nature*, 431, 660–663 {52}

Ollivier M, Gillon M, Santerne A, et al., 2012, Transiting exoplanets from the CoRoT space mission. XXII. CoRoT–16 b: a hot Jupiter with a hint of eccentricity around a faint solar-like star. *A&A*, 541, A149 {22}

O'Malley-James JT, Kaltenegger L, 2017, Ultraviolet surface habitability of the TRAPPIST–1 system. *MNRAS*, 469, L26–L30 {40}

Omiya M, Han I, Izumioura H, et al., 2012, A planetary companion to the intermediate-mass giant HD 100655. *PASJ*, 64, 34 {10}

Onitsuka M, Fukui A, Narita N, et al., 2017, Multi-colour simultaneous photometry of the T Tauri star with planetary candidate, CVSO 30. *PASJ*, 69, L2 {39}

Oppenheimer BR, Baranec C, Beichman C, et al., 2013, Reconnaissance of the HR 8799 exosolar system. I. Near-infrared spectroscopy. *ApJ*, 768, 24 {53}

Oreshenko M, Heng K, Demory BO, 2016, Optical phase curves as diagnostics for aerosol composition in exoplanetary atmospheres. *MNRAS*, 457, 3420–3429 {27}

Published by Cambridge University Press, ISBN 9781108419772

Oreshenko M, Lavie B, Grimm SL, et al., 2017, Retrieval analysis of the emission spectrum of WASP–12 b: sensitivity of outcomes to prior assumptions and implications for formation history. *ApJ*, 847, L3 {43}

Ormel CW, Liu B, Schoonenberg D, 2017, Formation of TRAPPIST–1 and other compact systems. *A&A*, 604, A1 {40}

Orosz JA, Welsh WF, Carter JA, et al., 2012a, Kepler–47: a transiting circumbinary multi-planet system. *Science*, 337, 1511 {30}

—, 2012b, The Neptune-sized circumbinary planet Kepler–38 b. *ApJ*, 758, 87 {29}

O'Rourke JG, Knutson HA, Zhao M, et al., 2014, Warm Spitzer and Palomar near-IR secondary eclipse photometry of two hot Jupiters: WASP–48 b and HAT–P–23 b. *ApJ*, 781, 109 {25, 45}

Ortiz M, Gandolfi D, Reffert S, et al., 2015, Kepler–432 b: a massive warm Jupiter in a 52-d eccentric orbit transiting a giant star. *A&A*, 573, L6 {34}

Ortiz M, Reffert S, Trifonov T, et al., 2016, Precise radial velocities of giant stars. IX. HD 59686 Ab: a massive circumstellar planet orbiting a giant star in a 13.6 au eccentric binary system. *A&A*, 595, A55 {8}

Osborn HP, Santerne A, Barros SCC, et al., 2017, K2–110 b: a massive mini-Neptune exoplanet. *A&A*, 604, A19 {38}

Oshagh M, Boisse I, Boué G, et al., 2013a, SOAP–T: a tool to study the light curve and radial velocity of a system with a transiting planet and a rotating spotted star. *A&A*, 549, A35 {24, 42}

Oshagh M, Grigahcène A, Benomar O, et al., 2013b, Successful asteroseismology for a better characterisation of the exoplanet HAT–P–7 b. *Advances in Solid State Physics*, volume 31, 227 {24}

Østensen RH, Green EM, Bloemen S, et al., 2010, 2M J1938+4603: a rich, multimode pulsating sdB star with an eclipsing dM companion observed with Kepler. *MNRAS*, 408, L51–L55 {35}

O'Toole SJ, Butler RP, Tinney CG, et al., 2007, New planets around three G dwarfs. *ApJ*, 660, 1636–1641 {7, 11}

O'Toole SJ, Tinney CG, Butler RP, et al., 2009, A Neptune-mass planet orbiting the nearby G dwarf HD 16417. *ApJ*, 697, 1263–1268 {7}

Otor OJ, Montet BT, Johnson JA, et al., 2016, The orbit and mass of the third planet in the Kepler–56 system. *AJ*, 152, 165 {30}

Owen JE, Morton TD, 2016, The initial physical conditions of Kepler–36 b and c. *ApJ*, 819, L10 {29}

Paardekooper SJ, Leinhardt ZM, 2010, Planetesimal collisions in binary systems. *MNRAS*, 403, L64–L68 {2}

Paardekooper SJ, Leinhardt ZM, Thébault P, et al., 2012, How not to build Tatooine: the difficulty of *in situ* formation of circumbinary planets Kepler–16 b, Kepler–34 b, and Kepler–35 b. *ApJ*, 754, L16 {28, 29}

Paardekooper SJ, Rein H, Kley W, 2013, The formation of systems with closely spaced low-mass planets and the application to Kepler–36. *MNRAS*, 434, 3018–3029 {29}

Pagano I, Lanza AF, Leto G, et al., 2009, CoRoT–2 magnetic activity: hints for possible star–planet interaction. *Earth Moon and Planets*, 105, 373–378 {21}

Pagano M, Truitt A, Young PA, et al., 2015, The chemical composition of τ Cet and possible effects on terrestrial planets. *ApJ*, 803, 90 {3}

Pál A, 2010, Analysis of radial velocity variations in multiple planetary systems. *MNRAS*, 409, 975–984 {9, 10, 11}

Pál A, Bakos GÁ, Fernandez J, et al., 2009, Independent confirmation and refined parameters of the hot Jupiter XO–5 b. *ApJ*, 700, 783–790 {48}

Pál A, Bakos GÁ, Torres G, et al., 2008, HAT–P–7 b: an extremely hot massive planet transiting a bright star in the Kepler field. *ApJ*, 680, 1450–1456 {24}

—, 2010, Refined stellar, orbital and planetary parameters of the eccentric HAT–P–2 planetary system. *MNRAS*, 401, 2665–2674 {23}

Pál A, Sárneczky K, Szabó GM, et al., 2011, Transit timing variations in the HAT–P–13 system. *MNRAS*, 413, L43–L46 {25}

Pallé E, Chen G, Alonso R, et al., 2016, The GTC exoplanet transit spectroscopy survey. III. No asymmetries in the transit of CoRoT–29 b. *A&A*, 589, A62 {23}

Palle E, Chen G, Prieto-Arranz J, et al., 2017, Feature-rich transmission spectrum for WASP–127 b: cloud-free skies for the puffiest known super-Neptune? *A&A*, 602, L15 {47}

Palle E, Nowak G, Luque R, et al., 2018, Detection and Doppler monitoring of EPIC 246471491, a system of four transiting planets smaller than Neptune. *arXiv e-prints* {38}

Pan M, Nesvold ER, Kuchner MJ, 2016, Apocentre glow in eccentric debris disks: implications for Fomalhaut and ϵ Eri. *ApJ*, 832, 81 {3, 51}

Panić O, Ratzka T, Mulders GD, et al., 2014, Resolving the HD 100546 disk in the mid-infrared: small inner disk and asymmetry near the gap. *A&A*, 562, A101 {53}

Panichi F, Goździewski K, Migaszewski C, et al., 2018, The architecture and formation of the Kepler–30 planetary system. *MNRAS*, 478, 2480–2494 {29}

Panichi F, Goździewski K, Turchetti G, 2017, The reversibility error method (REM): a new, dynamical fast indicator for planetary dynamics. *MNRAS*, 468, 469–491 {7, 29, 30}

Papaloizou JCB, 2011, Tidal interactions in multi-planet systems. *Cel. Mech. Dyn. Astron.*, 111, 83–103 {5, 6}

—, 2015, Three body resonances in close orbiting planetary systems: tidal dissipation and orbital evolution. *Int. J. Astrobiol.*, 14, 291–304 {30}

—, 2016, Consequences of tidal interaction between disks and orbiting protoplanets for the evolution of multi-planet systems with architecture resembling that of Kepler–444. *Cel. Mech. Dyn. Astron.*, 126, 157–187 {35}

Papaloizou JCB, Szuszkiewicz E, Terquem C, 2018, The TRAPPIST–1 system: orbital evolution, tidal dissipation, formation and habitability. *MNRAS*, 476, 5032–5056 {40}

Papaloizou JCB, Terquem C, 2010, On the dynamics of multiple systems of hot super-Earths and Neptunes: tidal circularisation, resonance and the HD 40307 system. *MNRAS*, 405, 573–592 {8}

Park RS, Pisano DJ, Lazio TJW, et al., 2018, Search for OH 18 cm radio emission from Oumuamua with the Green Bank Telescope. *AJ*, 155, 185 {55}

Parke Loyd RO, Koskinen TT, France K, et al., 2017, Ultraviolet C II and Si III transit spectroscopy and modeling of the evaporating atmosphere of GJ 436b. *ApJ*, 834, L17 {17}

Parmentier V, Line MR, Bean JL, et al., 2018, From thermal dissociation to condensation in the atmospheres of ultra hot Jupiters: WASP–121 b in context. *A&A*, 617, A110 {47}

Parmentier V, Showman AP, Lian Y, 2013, 3d mixing in hot Jupiters atmospheres. I. Application to the day/night cold trap in HD 209458 b. *A&A*, 558, A91 {20}

Parviainen H, Aigrain S, Thatte N, et al., 2015, Exoplanet transmission spectroscopy using KMOS. *MNRAS*, 453, 3875–3885 {21, 23, 44}

Parviainen H, Deeg HJ, Belmonte JA, 2013, Secondary eclipses in the CoRoT light curves: a homogeneous search based on Bayesian model selection. *A&A*, 550, A67 {21, 22}

Parviainen H, Gandolfi D, Deleuil M, et al., 2014, Transiting exoplanets from the CoRoT space mission. XXV. CoRoT–27 b: a massive and dense planet on a short-period orbit. *A&A*, 562, A140 {22}

Parviainen H, Pallé E, Chen G, et al., 2018, The GTC exoplanet transit spectroscopy survey. VIII. Flat transmission spectrum for the warm gas giant WASP–80 b. *A&A*, 609, A33 {46}

Parviainen H, Pallé E, Nortmann L, et al., 2016, The GTC exoplanet transit spectroscopy survey. II. An overly large Rayleigh-like feature for exoplanet TrES–3 b. *A&A*, 585, A114 {41}

Passy JC, Mac Low MM, De Marco O, 2012, On the survival of brown dwarfs and planets engulfed by their giant host star. *ApJ*, 759, L30 {13}

Patience J, Bulger J, King RR, et al., 2011, Spatially resolved submillimeter imaging of the HR 8799 debris disk. *A&A*, 531, L17 {53}

Patience J, King RR, de Rosa RJ, et al., 2010, The highest resolution near infrared spectrum of the imaged planetary mass companion 2M J1207 b. *A&A*, 517, A76 {54}

Patience J, King RR, De Rosa RJ, et al., 2012, Spectroscopy across the brown dwarf/planetary mass boundary. I. Near-infrared JHK spectra. *A&A*, 540, A85 {52}

Patience J, White RJ, Ghez AM, et al., 2002, Stellar companions to stars with planets. *ApJ*, 581, 654–665 {2, 3, 10}

Patra KC, Winn JN, Holman MJ, et al., 2017, The apparently decaying orbit of WASP–12 b. *AJ*, 154, 4 {43}

Pätzold M, Carone L, Rauer H, 2004, Tidal interactions of close-in extrasolar planets: the OGLE cases. *A&A*, 427, 1075–1080 {39}

Pätzold M, Endl M, Csizmadia S, et al., 2012, Transiting exoplanets from the CoRoT space mission. XXIII. CoRoT–21 b: a doomed large Jupiter around a faint subgiant. *A&A*, 545, A6 {22}

Pawellek N, Krivov AV, Marshall JP, et al., 2014, Disk radii and grain sizes in Herschel-resolved debris disks. *ApJ*, 792, 65 {5, 6}

Payne AN, Ciardi DR, Kane SR, et al., 2018, Disentangling blended K2 photometry: determining the planetary host star. *AJ*, 156, 209 {37, 46}

Payne MJ, Ford EB, 2011, An analysis of jitter and transit timing variations in the HAT–P–13 system. *ApJ*, 729, 98 {25}

Payne MJ, Ford EB, Wyatt MC, et al., 2009, Dynamical simulations of the planetary system HD 69830. *MNRAS*, 393, 1219–1234 {8}

Pearson KA, Turner JD, Sagan TG, 2014, Photometric observation of HAT–P–16 b in the near-ultraviolet. *New Astron.*, 27, 102–110 {25}

Pecaut MJ, Mamajek EE, Bubar EJ, 2012, A revised age for Upper Scorpius and the star formation history among the F-type members of the Sco–Cen OB association. *ApJ*, 746, 154 {54}

Peek KMG, Johnson JA, Fischer DA, et al., 2009, Old, rich, and eccentric: two Jovian planets orbiting evolved metal-rich stars. *PASP*, 121, 613–620 {7, 9}

Penev K, Bakos GÁ, Bayliss D, et al., 2013, HATS–1 b: the first transiting planet discovered by HAT–South. *AJ*, 145, 5 {26}

Penev K, Bouma LG, Winn JN, et al., 2018, Empirical tidal dissipation in exoplanet hosts from tidal spin-up. *AJ*, 155, 165 {26, 44}

Penev K, Hartman JD, Bakos GÁ, et al., 2016, HATS–18 b: an extreme short-period massive transiting planet spinning up its star. *AJ*, 152, 127 {26}

Pepe F, Collier Cameron A, Latham DW, et al., 2013, An Earth-sized planet with an Earth-like density. *Nature*, 503, 377–380 {31}

Pepe F, Correia ACM, Mayor M, et al., 2007, The HARPS search for southern extrasolar planets. VIII. μ Ara, a system with four planets. *A&A*, 462, 769–776 {1}

Pepe F, Lovis C, Ségransan D, et al., 2011, The HARPS search for Earth-like planets in the habitable zone. I. Very low-mass planets around HD 20794, HD 85512, and HD 192310. *A&A*, 534, A58 {7, 9, 12}

Pepe F, Mayor M, Galland F, et al., 2002, The CORALIE survey for southern extra-solar planets. VII. Two short-period Saturnian companions to HD 108147 and HD 168746. *A&A*, 388, 632–638 {10, 11}

Pepe F, Mayor M, Queloz D, et al., 2004, The HARPS search for southern extrasolar planets. I. HD 330075 b: a new hot Jupiter. *A&A*, 423, 385–389 {13}

Pepper J, Gillen E, Parviainen H, et al., 2017a, A low-mass exoplanet candidate detected by K2 transiting the Praesepe M dwarf JS 183. *AJ*, 153, 177 {38}

Pepper J, Rodriguez JE, Collins KA, et al., 2017b, KELT–11 b: a highly inflated sub-Saturn exoplanet transiting the $V = 8$ subgiant HD 93396. *AJ*, 153, 215 {27}

Pepper J, Siverd RJ, Beatty TG, et al., 2013, KELT–3 b: a hot Jupiter transiting a $V = 9.8$ late-F star. *ApJ*, 773, 64 {26}

Peralta J, Imamura T, Read PL, et al., 2014, Analytical solution for waves in planets with atmospheric superrotation. I. Acoustic and inertia-gravity waves. *ApJS*, 213, 17 {17, 22, 28, 29, 31}

Perez S, Dunhill A, Casassus S, et al., 2015, Planet formation signposts: observability of circumplanetary disks via gas kinematics. *ApJ*, 811, L5 {53}

Perez-Becker D, Chiang E, 2013, Catastrophic evaporation of rocky planets. *MNRAS*, 433, 2294–2309 {36}

Perez-Becker D, Showman AP, 2013, Atmospheric heat redistribution on hot Jupiters. *ApJ*, 776, 134 {18, 19, 20, 24, 43}

Perger M, Ribas I, Damasso M, et al., 2017, HADES radial velocity programme with HARPS–N at TNG. VI. GJ 3942 b behind dominant activity signals. *A&A*, 608, A63 {6}

Perna R, Menou K, Rauscher E, 2010a, Magnetic drag on hot Jupiter atmospheric winds. *ApJ*, 719, 1421–1426 {20}

Published by Cambridge University Press, ISBN 9781108419772

—, 2010b, Ohmic dissipation in the atmospheres of hot Jupiters. *ApJ*, 724, 313–317 {18, 20}

Perrier C, Sivan JP, Naef D, et al., 2003, The ELODIE survey for northern extrasolar planets. I. Six new extrasolar planet candidates. *A&A*, 410, 1039–1049 {6, 7, 8, 10}

Perryman MAC, 2000, Extrasolar planets. *Rep. Prog. Phys.*, 63, 1209–1272 {vii}

Perryman MAC, Lindegren L, Arenou F, et al., 1996, Hipparcos distances and mass limits for the planetary candidates: 47 UMa, 70 Vir, and 51 Peg. *A&A*, 310, L21–L24 {3, 4}

Perryman MAC, Schulze-Hartung T, 2011, The barycentric motion of exoplanet host stars: tests of solar spin–orbit coupling. *A&A*, 525, A65 {9, 11}

Persson CM, Fridlund M, Barragán O, et al., 2018, Super-Earth of $8M_\oplus$ in a 2.2-d orbit around the K5V star K2–216. *A&A*, 618, A33 {38}

Peterson MS, Benneke B, David TJ, et al., 2018, A $2R_\oplus$ planet orbiting the bright nearby K dwarf Wolf 503. *AJ*, 156, 188 {47}

Petigura EA, Benneke B, Batygin K, et al., 2018, Dynamics and formation of the near-resonant K2–24 system: insights from transit-timing variations and radial velocities. *AJ*, 156, 89 {37}

Petigura EA, Howard AW, Lopez ED, et al., 2016, Two transiting low density sub-Saturns from K2. *ApJ*, 818, 36 {37}

Petigura EA, Schlieder JE, Crossfield IJM, et al., 2015, Two transiting Earth-size planets near resonance orbiting a nearby cool star. *ApJ*, 811, 102 {37}

Petigura EA, Sinukoff E, Lopez ED, et al., 2017, Four sub-Saturns with dissimilar densities: windows into planetary cores and envelopes. *AJ*, 153, 142 {37, 38}

Petit dit de la Roche DJM, Hoeijmakers HJ, Snellen IAG, 2018, Molecule mapping of HR 8799 b using OSIRIS on Keck: strong detection of water and carbon monoxide, but no methane. *A&A*, 616, A146 {53}

Petrucci R, Jofré E, Ferrero LV, et al., 2018, A search for transit timing variations and orbital decay in WASP–46 b. *MNRAS*, 473, 5126–5141 {45}

Petrucci R, Jofré E, Melita M, et al., 2015, Transit timing variation analysis in southern stars: the case of WASP–28. *MNRAS*, 446, 1389–1398 {44}

Petrucci R, Jofré E, Schwartz M, et al., 2013, No transit timing variations in WASP–4. *ApJ*, 779, L23 {42}

Pfalzner S, Bhandare A, Vincke K, 2018, Did a stellar fly-by shape the planetary system around Pr 211 in the cluster M44? *A&A*, 610, A33 {14}

Pierens A, Nelson RP, 2013, Migration and gas accretion scenarios for the Kepler–16, Kepler–34, and Kepler–35 circumbinary planets. *A&A*, 556, A134 {28, 29}

—, 2018, Orbital alignment of circumbinary planets that form in misaligned circumbinary disks: the case of Kepler–413 b. *MNRAS*, 477, 2547–2559 {34}

Pierrehumbert RT, 2011, A palette of climates for GJ 581 g. *ApJ*, 726, L8 {5}

Piétu V, Dutrey A, Guilloteau S, 2007, Probing the structure of protoplanetary disks: a comparative study of DM Tau, LkCa 15, and MWC 480. *A&A*, 467, 163–178 {54}

Pilat-Lohinger E, Bazsó A, Funk B, 2016, A quick method to identify secular resonances in multi-planet systems with a binary companion. *AJ*, 152, 139 {8}

Pillitteri I, Günther HM, Wolk SJ, et al., 2011, X-ray activity phased with planet motion in HD 189733? *ApJ*, 741, L18 {18}

Pillitteri I, Maggio A, Micela G, et al., 2015, Far ultraviolet variability of HD 189733: is the star accreting material from its hot Jupiter? *ApJ*, 805, 52 {19}

Pillitteri I, Wolk SJ, Cohen O, et al., 2010, XMM–Newton observations of HD 189733 during planetary transits. *ApJ*, 722, 1216–1225 {18}

Pillitteri I, Wolk SJ, Lopez-Santiago J, et al., 2014a, The corona of HD 189733 and its X-ray activity. *ApJ*, 785, 145 {19}

Pillitteri I, Wolk SJ, Sciortino S, et al., 2014b, No X-rays from WASP–18: implications for its age, activity, and the influence of its massive hot Jupiter. *A&A*, 567, A128 {44}

Pilyavsky G, Mahadevan S, Kane SR, et al., 2011, A search for the transit of HD 168443 b: improved orbital parameters and photometry. *ApJ*, 743, 162 {11}

Pinamonti M, Damasso M, Marzari F, et al., 2018, The HADES radial velocity programme with HARPS–N at TNG. VIII. GJ 15A: a multiple wide planetary system sculpted by binary interaction. *A&A*, 617, A104 {4}

Pineda JE, Quanz SP, Meru F, et al., 2014, Resolved images of the protoplanetary disk around HD 100546 with ALMA. *ApJ*, 788, L34 {53}

Pineda JS, Hallinan G, 2018, A deep radio limit for the TRAPPIST–1 system. *ApJ*, 866, 155 {40}

Pinilla P, Birnstiel T, Walsh C, 2015, Sequential planet formation in the HD 100546 protoplanetary disk? *A&A*, 580, A105 {53}

Pino L, Ehrenreich D, Wyttenbach A, et al., 2018, Combining low- to high-resolution transit spectroscopy of HD 189733 b: linking the troposphere and the thermosphere of a hot gas giant. *A&A*, 612, A53 {19}

Pinotti R, Boechat-Roberty HM, 2016, Molecular formation along the atmospheric mass loss of HD 209458 b and similar hot Jupiters. *Planet. Space Sci.*, 121, 83–93 {21}

Piskorz D, Benneke B, Crockett NR, et al., 2016, Evidence for the direct detection of the thermal spectrum of the non-transiting hot gas giant HD 88133 b. *ApJ*, 832, 131 {9}

—, 2017, Detection of water vapour in the thermal spectrum of the non-transiting hot Jupiter υ And b. *AJ*, 154, 78 {1}

Piskorz D, Buzard C, Line MR, et al., 2018, Ground- and space-based detection of the thermal emission spectrum of the transiting hot Jupiter KELT–2A b. *AJ*, 156, 133 {26}

Placek B, Knuth KH, Angerhausen D, 2014, EXONEST: Bayesian model selection applied to the detection and characterisation of exoplanets via photometric variations. *ApJ*, 795, 112 {28}

Placek B, Knuth KH, Angerhausen D, et al., 2015, Characterisation of Kepler–91 b and the investigation of a potential Trojan companion using EXONEST. *ApJ*, 814, 147 {31}

Plávalová E, Solovaya NA, 2013, Analysis of the motion of an extrasolar planet in a binary system. *AJ*, 146, 108 {3, 7}

Plavchan P, Chen X, Pohl G, 2015, What is the mass of α Cen B b? *ApJ*, 805, 174 {2}

Podlewska-Gaca E, Papaloizou JCB, Szuszkiewicz E, 2012, Outward migration of a super-Earth in a disk with outward propagating density waves excited by a giant planet. *MNRAS*, 421, 1736–1756 {5}

Poleski R, Gaudi BS, Udalski A, et al., 2018, An ice giant exoplanet interpretation of the anomaly in microlensing event OGLE–2011–BLG–0173. *AJ*, 156, 104 {50}

Poleski R, Skowron J, Udalski A, et al., 2014a, Triple microlens OGLE–2008–BLG–92L: binary stellar system with a circumprimary Uranus-type planet. *ApJ*, 795, 42 {50}

Poleski R, Udalski A, Bond IA, et al., 2017, A companion on the planet/brown dwarf mass boundary on a wide orbit discovered by gravitational microlensing. *A&A*, 604, A103 {49}

Poleski R, Udalski A, Dong S, et al., 2014b, Super-massive planets around late-type stars: the case of OGLE–2012–BLG–406L b. *ApJ*, 782, 47 {50}

Pollacco D, Skillen I, Collier Cameron A, et al., 2008, WASP–3 b: a strongly irradiated transiting gas-giant planet. *MNRAS*, 385, 1576–1584 {41}

Pont F, Aigrain S, Zucker S, 2011, Reassessing the radial-velocity evidence for planets around CoRoT–7. *MNRAS*, 411, 1953–1962 {22}

Pont F, Bouchy F, Queloz D, et al., 2004, The missing link: a 4-day period transiting exoplanet around OGLE–TR–111. *A&A*, 426, L15–L18 {39}

Pont F, Endl M, Cochran WD, et al., 2010, The spin–orbit angle of the transiting hot Jupiter CoRoT–1 b. *MNRAS*, 402, L1–L5 {21}

Pont F, Gilliland RL, Knutson H, et al., 2009a, Transit infrared spectroscopy of the hot Neptune around GJ 436 with HST. *MNRAS*, 393, L6–L10 {16}

Pont F, Gilliland RL, Moutou C, et al., 2007a, HST time-series photometry of the planetary transit of HD 189733: no moon, no rings, star spots. *A&A*, 476, 1347–1355 {18}

Pont F, Hébrard G, Irwin JM, et al., 2009b, Spin–orbit misalignment in the HD 80606 planetary system. *A&A*, 502, 695–703 {17}

Pont F, Knutson H, Gilliland RL, et al., 2008a, Detection of atmospheric haze on an extrasolar planet: the 0.55–1.05 μm transmission spectrum of HD 189733 b wit HST. *MNRAS*, 385, 109–118 {18}

Pont F, Moutou C, Gillon M, et al., 2007b, The '666' collaboration on OGLE transits. I. Accurate radii of the planets OGLE–TR–10 b and OGLE–TR–56 b with VLT deconvolution photometry. *A&A*, 465, 1069–1074 {39}

Pont F, Sing DK, Gibson NP, et al., 2013, The prevalence of dust on the exoplanet HD 189733 b from HST and Spitzer observations. *MNRAS*, 432, 2917–2944 {19}

Pont F, Tamuz O, Udalski A, et al., 2008b, A transiting planet among 23 new near-threshold candidates from OGLE: OGLE–TR–182. *A&A*, 487, 749–754 {39}

Pope BJS, Parviainen H, Aigrain S, 2016, Transiting exoplanet candidates from K2 Campaigns 5 and 6. *MNRAS*, 461, 3399–3409 {37, 39, 46}

Popova EA, 2017, On the dynamics of the exoplanetary system Kepler–413. *Solar System Research*, 51, 436–440 {34}

Popova EA, Shevchenko II, 2012, Planetary dynamics in α Cen: the stability diagrams. *Astronomy Letters*, 38, 581–588 {2}

—, 2013, Kepler–16 b: safe in a resonance cell. *ApJ*, 769, 152 {28}

—, 2016, On possible circumbinary configurations of the planetary systems of α Cen and EZ Aquarii. *Astronomy Letters*, 42, 260–267 {2}

Poppenhaeger K, Auchettl K, Wolk SJ, 2017, A test of the neutron star hypothesis for Fomalhaut b. *MNRAS*, 468, 4018–4024 {51}

Poppenhaeger K, Czesla S, Schröter S, et al., 2012a, The high-energy environment in the super-Earth system CoRoT–7. *A&A*, 541, A26 {22}

Poppenhaeger K, Günther HM, Schmitt JHMM, 2012b, A magnetic cycle of τ Boo? The coronal and chromospheric view. *Astron. Nach.*, 333, 26 {2}

Poppenhaeger K, Lenz LF, Reiners A, et al., 2011, A search for star–planet interactions in the υ And system at X-ray and optical wavelengths. *A&A*, 528, A58 {1}

Poppenhaeger K, Schmitt JHMM, Wolk SJ, 2013, Transit observations of the hot Jupiter HD 189733 b at X-ray wavelengths. *ApJ*, 773, 62 {19}

Portegies Zwart S, Torres S, Pelupessy I, et al., 2018, The origin of interstellar asteroidal objects like Oumuamua. *MNRAS*, 479, L17–L22 {55}

Poulton CJ, Greaves JS, Collier Cameron A, 2006, Detecting a rotation in the ϵ Eri debris disk. *MNRAS*, 372, 53–59 {3}

Poveda A, Lara P, 2008, The exo-planetary system of 55 Cnc and the Titius–Bode Law. *Revista Mexicana de Astronomia y Astrofisica*, 44, 243–246 {16}

Pravdo SH, Angelini L, Drake SA, et al., 1996, The X-ray evidence that the 51 Peg companion is a planet. *New Astron.*, 1, 171–176 {3}

Preusse S, Kopp A, Büchner J, et al., 2006, A magnetic communication scenario for hot Jupiters. *A&A*, 460, 317–322 {1, 12}

Price A, Bissinger R, Laughlin GP, et al., 2005, Planetary transits of the trans-Atlantic exoplanet survey candidate TrES–1 b. *J. Am. Assoc. Variable Star Obs.*, 34, 17–22 {40}

Prieto-Arranz J, Palle E, Gandolfi D, et al., 2018, Mass determination of the 1:3:5 near-resonant planets transiting GJ 9827 (K2–135). *A&A*, 618, A116 {38}

Proffitt CR, Sahu K, Livio M, et al., 2004, Limits on the optical brightness of the ϵ Eri dust ring. *ApJ*, 612, 481–495 {3}

Przybilla N, Aschenbrenner P, Buder S, 2017, Candidate exoplanet host HD 131399A: a nascent Am star. *A&A*, 604, L9 {53}

Psychoyos D, Hadjidemetriou JD, 2005, Dynamics of 2:1 resonant extrasolar systems application to HD 82943 and GJ 876. *Cel. Mech. Dyn. Astron.*, 92, 135–156 {5, 9}

Pueyo L, Soummer R, Hoffmann J, et al., 2015, Reconnaissance of the HR 8799 exosolar system. II. Astrometry and orbital motion. *ApJ*, 803, 31 {53}

Puranam A, Batygin K, 2018, Chaotic excitation and tidal damping in the GJ 876 system. *AJ*, 155, 157 {6}

Püsküllü Ç, Soydugan F, Erdem A, et al., 2017, Photometric investigation of hot exoplanets: TrES–3 b and Qatar–1 b. *New Astron.*, 55, 39–47 {39, 41}

Qi C, Öberg KI, Wilner DJ, et al., 2013, First detection of c-C_3H_2 in a circumstellar disk. *ApJ*, 765, L14 {11}

Quanz SP, 2015, High-contrast imaging constraints on gas giant planet formation: the Herbig Ae/Be star opportunity. *Ap&SS*, 357, 148 {53}

Quanz SP, Amara A, Meyer MR, et al., 2013, A young protoplanet candidate embedded in the circumstellar disk of HD 100546. *ApJ*, 766, L1 {52}

—, 2015, Confirmation and characterisation of the protoplanet HD 100546 b: direct evidence for gas giant planet formation at 50 au. *ApJ*, 807, 64 {52, 53}

Quanz SP, Meyer MR, Kenworthy MA, et al., 2010, First results from VLT–NACO apodising phase plate: 4 μm images of the exoplanet β Pic b. *ApJ*, 722, L49–L53 {52}

Quanz SP, Schmid HM, Geissler K, et al., 2011, VLT–NACO polarimetric differential imaging of HD 100546: disk structure and dust grain properties between 10–140 au. *ApJ*, 738, 23 {52}

Quarles B, Cuntz M, Musielak ZE, 2012a, The stability of the suggested planet in the ν Oct system: a numerical and statistical study. *MNRAS*, 421, 2930–2939 {3}

Quarles B, Lissauer JJ, 2016, Long-term stability of planets in the α Cen system. *AJ*, 151, 111 {2}

—, 2018, Long-term stability of tightly packed multi-planet systems in prograde, coplanar, circumstellar orbits within the α Cen AB System. *AJ*, 155, 130 {2}

Quarles B, Lissauer JJ, Kaib N, 2018, Long-term stability of planets in the α Cen system. II. Forced eccentricities. *AJ*, 155, 64 {2}

Quarles B, Musielak ZE, Cuntz M, 2012b, Habitability of Earth-mass planets and moons in Kepler–16. *ApJ*, 750, 14 {28}

Quarles B, Quintana EV, Lopez E, et al., 2017, Plausible compositions of the seven TRAPPIST–1 planets using long-term dynamical simulations. *ApJ*, 842, L5 {40}

Queloz D, Anderson D, Collier Cameron A, et al., 2010, WASP–8 b: a retrograde transiting planet in a multiple system. *A&A*, 517, L1–L4 {42}

Queloz D, Bouchy F, Moutou C, et al., 2009, The CoRoT–7 planetary system: two orbiting super-Earths. *A&A*, 506, 303–319 {22}

Queloz D, Eggenberger A, Mayor M, et al., 2000a, Detection of a spectroscopic transit by the planet orbiting the star HD 209458. *A&A*, 359, L13–L17 {19}

Queloz D, Mayor M, Naef D, et al., 2004, Four Jovian extrasolar planets detected with CORALIE. *Planetary Systems in the Universe*, volume 202 of *IAU Symp.*, 106 {7}

Queloz D, Mayor M, Weber L, et al., 2000b, The CORALIE survey for southern extrasolar planets. I. A planet orbiting the star GJ 86. *A&A*, 354, 99–102 {4}

Quillen AC, 2006, Predictions for a planet just inside Fomalhaut's eccentric ring. *MNRAS*, 372, L14–L18 {51}

Quillen AC, Bodman E, Moore A, 2013, Origin scenarios for the Kepler–36 planetary system. *MNRAS*, 435, 2256–2267 {29}

Quillen AC, Thorndike S, 2002, Structure in the ϵ Eri dusty disk caused by mean motion resonances with a 0.3 eccentricity planet at periastron. *ApJ*, 578, L149–L152 {3}

Quinn SN, Bakos GÁ, Hartman J, et al., 2012a, HAT–P–25 b: a hot-Jupiter transiting a moderately faint G star. *ApJ*, 745, 80 {25}

Quinn SN, White RJ, Latham DW, et al., 2012b, Two 'b's in the Beehive: the discovery of the first hot Jupiters in an open cluster. *ApJ*, 756, L33 {14}

—, 2014, HD 285507 b: an eccentric hot Jupiter in the Hyades open cluster. *ApJ*, 787, 27 {13}

Quinn SN, White TR, Latham DW, et al., 2015, Kepler–432: a red giant interacting with one of its two long-period giant planets. *ApJ*, 803, 49 {34}

Quintana EV, Barclay T, Raymond SN, et al., 2014, An Earth-sized planet in the habitable zone of a cool star. *Science*, 344, 277–280 {33}

Quintana EV, Lissauer JJ, Chambers JE, et al., 2002, Terrestrial planet formation in the α Cen System. *ApJ*, 576, 982–996 {2}

Quintana EV, Rowe JF, Barclay T, et al., 2013, Confirmation of hot Jupiter Kepler–41 b via phase curve analysis. *ApJ*, 767, 137 {29}

Quirrenbach A, Reffert S, Bergmann C, 2011, Planets around giant stars. *Amer. Inst. Phys. Conf. Ser.*, volume 1331, 102–109 {3}

Rabus M, Alonso R, Belmonte JA, et al., 2009a, A cool star spot or a second transiting planet in the TrES–1 system? *A&A*, 494, 391–397 {40}

Rabus M, Deeg HJ, Alonso R, et al., 2009b, Transit timing analysis of the exoplanets TrES–1 and TrES–2. *A&A*, 508, 1011–1020 {40}

Rabus M, Jordán A, Hartman JD, et al., 2016, HATS–11 b and HATS–12 b: two transiting hot Jupiters orbiting subsolar metallicity stars selected for the K2 campaign 7. *AJ*, 152, 88 {26}

Rackham B, Espinoza N, Apai D, et al., 2017, ACCESS I: an optical transmission spectrum of GJ 1214 b reveals a heterogeneous stellar photosphere. *ApJ*, 834, 151 {23}

Raetz S, Maciejewski G, Ginski C, et al., 2014, Transit timing of TrES–2: a combined analysis of ground- and space-based photometry. *MNRAS*, 444, 1351–1368 {41}

Raetz S, Maciejewski G, Seeliger M, et al., 2015, WASP–14 b: transit timing analysis of 19 light curves. *MNRAS*, 451, 4139–4149 {43}

Raetz S, Mugrauer M, Schmidt TOB, et al., 2009a, Planetary transit observations at the University Observatory Jena: TrES–2. *Astron. Nach.*, 330, 459 {40}

—, 2009b, Planetary transit observations at the University Observatory Jena: XO–1 b and TrES–1. *Astron. Nach.*, 330, 475 {40, 47}

Raetz S, Schmidt TOB, Czesla S, et al., 2016, YETI observations of the young transiting planet candidate CVSO 30 b. *MNRAS*, 460, 2834–2852 {39}

Rafikov RR, 2009, Stellar proper motion and the timing of planetary transits. *ApJ*, 700, 965–970 {16, 17, 18, 23, 41, 48}

—, 2013, Planet formation in small separation binaries: not so secularly excited by the companion. *ApJ*, 765, L8 {2, 3, 12}

—, 2018a, Oumuamua-like interstellar asteroids as possible messengers from dead stars. *ApJ*, 861, 35 {55}

—, 2018b, Spin evolution and cometary interpretation of the interstellar minor object Oumuamua. *ApJ*, 867, L17 {55}

Rafikov RR, Silsbee K, 2015, Planet formation in stellar binaries. II. Overcoming the fragmentation barrier in α Cen and γ Cep-like systems. *ApJ*, 798, 70 {2, 3}

Raghavan D, Henry TJ, Mason BD, et al., 2006, Two suns in the sky: stellar multiplicity in exoplanet systems. *ApJ*, 646, 523–542 {4, 8}

Ragozzine D, Wolf AS, 2009, Probing the interiors of very hot Jupiters using transit light curves. *ApJ*, 698, 1778–1794 {21, 39, 41, 42}

Rajan A, Rameau J, De Rosa RJ, et al., 2017, Characterising 51 Eri b from 1–5 μm: a partly cloudy exoplanet. *AJ*, 154, 10 {52}

Rajpaul V, Aigrain S, Roberts S, 2016, Ghost in the time series: no planet for α Cen B. *MNRAS*, 456, L6–L10 {2}

Rajpaul V, Buchhave LA, Aigrain S, 2017, Pinning down the mass of Kepler–10 c: the importance of sampling and model comparison. *MNRAS*, 471, L125–L130 {27}

Rameau J, Chauvin G, Lagrange AM, et al., 2013a, Confirmation of the planet around HD 95086 by direct imaging. *ApJ*, 779, L26 {52}

—, 2013b, Discovery of a probable 4–5 Jupiter-mass exoplanet to HD 95086 by direct imaging. *ApJ*, 772, L15 {52}

Rameau J, Follette KB, Pueyo L, et al., 2017, An optical/near-infrared investigation of HD 100546 b with Gemini–GPI and MagAO. *AJ*, 153, 244 {53}

Rameau J, Nielsen EL, De Rosa RJ, et al., 2016, Constraints on the architecture of the HD 95086 planetary system with the Gemini Planet Imager (GPI). *ApJ*, 822, L29 {52}

Ramírez I, Khanal S, Aleo P, et al., 2015, The dissimilar chemical composition of the planet-hosting stars of the XO–2 binary system. *ApJ*, 808, 13 {48}

Ramírez I, Meléndez J, Cornejo D, et al., 2011, Elemental abundance differences in the 16 Cyg binary system: a signature of gas giant planet formation? *ApJ*, 740, 76 {3}

Ramm DJ, 2015, Line-depth-ratio temperatures for the close binary ν Oct: new evidence supporting the conjectured circumstellar retrograde planet. *MNRAS*, 449, 4428–4442 {3}

Ramm DJ, Nelson BE, Endl M, et al., 2016, The conjectured S-type retrograde planet in ν Oct: more evidence including four years of iodine-cell radial velocities. *MNRAS*, 460, 3706–3719 {3}

Ramm DJ, Pourbaix D, Hearnshaw JB, et al., 2009, Spectroscopic orbits for K giants β Ret and ν Oct: what is causing a low-amplitude radial velocity resonant perturbation in ν Oct? *MNRAS*, 394, 1695–1710 {3}

Ramón-Fox FG, Sada PV, 2013, Parameters of recent transits of HAT–P–23 b. *Rev. Mex. Astron. Astrofis.*, 49, 71–77 {25}

Ramos XS, Charalambous C, Benítez-Llambay P, et al., 2017, Planetary migration and the origin of the 2:1 and 3:2 (near)-resonant population of close-in exoplanets. *A&A*, 602, A101 {9, 53}

Ranc C, Cassan A, Albrow MD, et al., 2015, MOA–2007–BLG–197: exploring the brown dwarf desert. *A&A*, 580, A125 {49}

Ranjan S, Charbonneau D, Désert JM, et al., 2014, Atmospheric characterisation of five hot Jupiters with the HST–WFC3. *ApJ*, 785, 148 {21, 41, 42}

Rappaport S, Barclay T, DeVore J, et al., 2014, KOI–2700 b: a planet candidate with dusty effluents on a 22-hr orbit. *ApJ*, 784, 40 {37}

Rappaport S, Levine A, Chiang E, et al., 2012, Possible disintegrating short-period super-Mercury orbiting KIC–12557548. *ApJ*, 752, 1 {36}

Rappaport S, Sanchis-Ojeda R, Rogers LA, et al., 2013, The Roche limit for close-orbiting planets: minimum density, composition constraints, and application to the 4.2-hr planet KOI–1843.03. *ApJ*, 773, L15 {35}

Rappaport S, Vanderburg A, Jacobs T, et al., 2018, Likely transiting exocomets detected by Kepler. *MNRAS*, 474, 1453–1468 {36}

Rattenbury NJ, Bennett DP, Sumi T, et al., 2015, MOA–2010–BLG–353L b: a possible Saturn revealed. *MNRAS*, 454, 946–951 {49}

—, 2017, Faint-source-star planetary microlensing: the discovery of the cold gas-giant planet OGLE–2014–BLG–0676L b. *MNRAS*, 466, 2710–2717 {50}

Rauer H, Bockelée-Morvan D, Coustenis A, et al., 2000, Search for an exosphere around 51 Peg b with ISO. *A&A*, 355, 573–580 {3}

Rauer H, Erikson A, Kabath P, et al., 2010, Pre-discovery observations of CoRoT–1 b and CoRoT–2 b with the BEST survey. *AJ*, 139, 53–58 {21}

Rauer H, Queloz D, Csizmadia S, et al., 2009, Transiting exoplanets from the CoRoT space mission. VII. The hot-Jupiter planet CoRoT–5 b. *A&A*, 506, 281–286 {22}

Rauscher E, Kempton EMR, 2014, The atmospheric circulation and observable properties of non-synchronously rotating hot Jupiters. *ApJ*, 790, 79 {19, 20}

Rauscher E, Menou K, 2013, Three-dimensional atmospheric circulation models of HD 189733 b and HD 209458 b with consistent magnetic drag and Ohmic dissipation. *ApJ*, 764, 103 {19, 20}

Raymond SN, Armitage PJ, Veras D, 2018a, Interstellar object Oumuamua as an extinct fragment of an ejected cometary planetesimal. *ApJ*, 856, L7 {55}

Raymond SN, Armitage PJ, Veras D, et al., 2018b, Implications of the interstellar object Oumuamua for planetary dynamics and planetesimal formation. *MNRAS*, 476, 3031–3038 {55}

Raymond SN, Barnes R, Gorelick N, 2008, A dynamical perspective on additional planets in 55 Cnc. *ApJ*, 689, 478–491 {16}

Raynard L, Goad MR, Gillen E, et al., 2018, NGTS–2 b: an inflated hot-Jupiter transiting a bright F-dwarf. *MNRAS*, 481, 4960–4970 {39}

Read MJ, Wyatt MC, 2016, Dynamical constraints on outer planets in super-Earth systems. *MNRAS*, 457, 465–478 {4}

Read MJ, Wyatt MC, Marino S, et al., 2018, Shaping HR 8799's outer dust belt with an unseen planet. *MNRAS*, 475, 4953–4966 {53}

Read MJ, Wyatt MC, Triaud AHMJ, 2017, Transit probabilities in secularly evolving planetary systems. *MNRAS*, 469, 171–192 {30, 38}

Reddy BE, Lambert DL, Laws C, et al., 2002, A search for ^{6}Li in stars with planets. *MNRAS*, 335, 1005–1016 {9}

Redfield S, Endl M, Cochran WD, et al., 2008, Sodium absorption from the exoplanetary atmosphere of HD 189733 b detected in the optical transmission spectrum. *ApJ*, 673, L87–L90 {18}

Reffert S, Quirrenbach A, 2006, Hipparcos astrometric orbits for two brown dwarf companions: HD 38529 and HD 168443. *A&A*, 449, 699–702 {8, 11}

—, 2011, Mass constraints on substellar companion candidates from the re-reduced Hipparcos intermediate astrometric data. *A&A*, 527, A140 {1, 4, 6, 7, 11, 13}

Reffert S, Quirrenbach A, Mitchell DS, et al., 2006, Precise radial velocities of giant stars. II. Pollux and its planetary companion. *ApJ*, 652, 661–665 {8}

Regibo S, Vandenbussche B, Waelkens C, et al., 2012, A background galaxy in the field of the β Pic disk. *A&A*, 541, A3 {52}

Reidemeister M, Krivov AV, Schmidt TOB, et al., 2009, A possible architecture of the planetary system HR 8799. *A&A*, 503, 247–258 {53}

Reidemeister M, Krivov AV, Stark CC, et al., 2011, The cold origin of the warm dust around ϵ Eri. *A&A*, 527, A57 {3}

Rein H, 2015, Reanalysis of radial velocity data from the resonant planetary system HD 128311. *MNRAS*, 448, L58–L61 {10}

Published by Cambridge University Press, ISBN 9781108419772

Rein H, Papaloizou JCB, Kley W, 2010, The dynamical origin of the multi-planetary system HD 45364. *A&A*, 510, A4 {8}

Rein H, Payne MJ, Veras D, et al., 2012, Traditional formation scenarios fail to explain 4:3 mean motion resonances. *MNRAS*, 426, 187–202 {12, 32, 33}

Reiners A, Christensen UR, 2010, A magnetic field evolution scenario for brown dwarfs and giant planets. *A&A*, 522, A13 {2}

Reiners A, Ribas I, Zechmeister M, et al., 2018, The CARMENES search for exoplanets around M dwarfs: HD 147379 b: a nearby Neptune in the temperate zone of an early M dwarf. *A&A*, 609, L5 {11}

Reinhold T, Reiners A, Basri G, 2013, Rotation and differential rotation of active Kepler stars. *A&A*, 560, A4 {28, 31, 33}

Rey J, Bouchy F, Stalport M, et al., 2018, Brown dwarf companion with a period of 4.6-yr interacting with the hot Jupiter CoRoT–20 b. *A&A*, 619, A115 {22}

Rey J, Hébrard G, Bouchy F, et al., 2017, The SOPHIE search for northern extrasolar planets. XII. Three giant planets suitable for astrometric mass determination with Gaia. *A&A*, 601, A9 {7, 8}

Riaz B, Gizis JE, 2007, Characterising the disk around the TW Hya association brown dwarf 2M J1207. *ApJ*, 661, 354–360 {54}

Riaz B, Lodato G, Stamatellos D, et al., 2012, Herschel–SPIRE observations of the TWA brown dwarf disk 2M J1207. *MNRAS*, 422, L6 {54}

Ribas I, Bolmont E, Selsis F, et al., 2016, The habitability of Proxima Cen b. I. Irradiation, rotation and volatile inventory from formation to the present. *A&A*, 596, A111 {2}

Ribas I, Font-Ribera A, Beaulieu JP, 2008, A 5 Earth-mass super-Earth orbiting GJ 436? The power of near-grazing transits. *ApJ*, 677, L59–L62 {16}

Ribas I, Gregg MD, Boyajian TS, et al., 2017, The full spectral radiative properties of Proxima Cen. *A&A*, 603, A58 {2}

Rica FM, Barrena R, Henríquez JA, et al., 2017, Dynamical study of the exoplanet host binary system HD 106515. *Publ. Astron. Soc. Australia*, 34, e004 {10}

Ricci D, Ramón-Fox FG, Ayala-Loera C, et al., 2015, Multifilter transit observations of WASP–39 b and WASP–43 b with three San Pedro Mártir telescopes. *PASP*, 127, 143–151 {45}

Ricci D, Sada PV, Navarro-Meza S, et al., 2017a, Multi-filter transit observations of HAT–P–3 b and TrES–3 b with multiple northern hemisphere telescopes. *PASP*, 129(6), 064401 {24, 41}

Ricci L, Cazzoletti P, Czekala I, et al., 2017b, ALMA observations of the young substellar binary system 2M J1207. *AJ*, 154, 24 {54}

Ricci L, Testi L, Maddison ST, et al., 2012, Fomalhaut debris disk emission at 7 mm: constraints on the collisional models of planetesimals. *A&A*, 539, L6 {51}

Rice K, 2015, Can Lidov–Kozai cycles explain Kepler–78 b? *MNRAS*, 448, 1729–1737 {31}

Rich EA, Currie T, Wisniewski JP, et al., 2016, Thermal infrared imaging and atmospheric modeling of VHS J125601.92–125723.9 b: evidence for moderately thick clouds and equilibrium carbon chemistry in a hierarchical triple system. *ApJ*, 830, 114 {54}

Richardson LJ, Deming D, Seager S, 2003a, Infrared observations during the secondary eclipse of HD 209458 b. II. Strong limits on the infrared spectrum near 2.2 μm. *ApJ*, 597, 581–589 {20}

Richardson LJ, Deming D, Wiedemann G, et al., 2003b, Infrared observations during the secondary eclipse of HD 209458 b. I. 3.6 μm occultation spectroscopy using the VLT. *ApJ*, 584, 1053–1062 {20}

Richardson LJ, Harrington J, Seager S, et al., 2006, A Spitzer infrared radius for the transiting extrasolar planet HD 209458 b. *ApJ*, 649, 1043–1047 {20}

Ridden-Harper AR, Snellen IAG, Keller CU, et al., 2016, Search for an exosphere in sodium and calcium in the transmission spectrum of exoplanet 55 Cnc e. *A&A*, 593, A129 {16}

Rieder S, Kenworthy MA, 2016, Constraints on the size and dynamics of the 1SWASP J1407 b ring system. *A&A*, 596, A9 {41}

Rivera EJ, Butler RP, Vogt SS, et al., 2010a, A super-Earth orbiting the nearby Sun-like star HD 1461. *ApJ*, 708, 1492–1499 {6}

Rivera EJ, Haghighipour N, 2007, On the stability of test particles in extrasolar multiple planet systems. *MNRAS*, 374, 599–613 {1, 4, 5, 16}

Rivera EJ, Laughlin G, Butler RP, et al., 2010b, The Lick–Carnegie exoplanet survey: a Uranus-mass fourth planet for GJ 876 in an extrasolar Laplace configuration. *ApJ*, 719, 890–899 {5}

Rivera EJ, Lissauer JJ, 2000, Stability analysis of the planetary system orbiting υ And. *ApJ*, 530, 454–463 {1}

—, 2001, Dynamical models of the resonant pair of planets orbiting the star GJ 876. *ApJ*, 558, 392–402 {5}

Rivera EJ, Lissauer JJ, Butler RP, et al., 2005, A 7.5 Earth-mass planet orbiting the nearby star, GJ 876. *ApJ*, 634, 625–640 {5}

Rizzuto AC, Vanderburg A, Mann AW, et al., 2018, Zodiacal Exoplanets in Time (ZEIT). VIII. A two-planet system in Praesepe from K2 Campaign 16. *AJ*, 156, 195 {38}

Roberge A, Lecavelier des Etangs A, Vidal-Madjar A, et al., 2006, Evidence for comet-like bodies around the 12 Myr old star β Pic. *Astrophysics in the Far Ultraviolet: Five Years of Discovery with FUSE*, volume 348 of *ASP Conf. Ser.*, 294–296 {52}

Roberts JE, Barnes JW, Rowe JF, et al., 2013, MOST photometry of the 2010 January transit of HD 80606 b. *ApJ*, 762, 55 {17}

Roberts LC, Mason BD, Neyman CR, et al., 2015a, Know the star, know the planet. IV. A stellar companion to the host star of the eccentric exoplanet HD 8673 b. *AJ*, 149, 144 {6}

Roberts LC, Oppenheimer R, Crepp JR, et al., 2015b, Know the star, know the planet. V. Characterisation of the stellar companion to the exoplanet host star HD 177830. *AJ*, 150, 103 {12}

Roberts LC, Tokovinin A, Mason BD, et al., 2015c, Know the star, know the planet. III. Discovery of late-type companions to two exoplanet host stars. *AJ*, 149, 118 {6, 16}

Robertson P, 2018, Aliasing in the radial velocities of YZ Cet: an ultra-short period for YZ Cet c? *ApJ*, 864, L28 {3}

Robertson P, Endl M, Cochran WD, et al., 2012a, The McDonald Observatory planet search: new long-period giant planets and two interacting Jupiters in the HD 155358 system. *ApJ*, 749, 39 {9, 11, 12, 13}

—, 2013, Secretly eccentric: the giant planet and activity cycle of GJ 328. *ApJ*, 774, 147 {5}

Robertson P, Endl M, Henry GW, et al., 2015a, Stellar activity and its implications for exoplanet detection on GJ 176. *ApJ*, 801, 79 {13}

Robertson P, Horner J, Wittenmyer RA, et al., 2012b, A second giant planet in 3:2 mean-motion resonance in the HD 204313 system. *ApJ*, 754, 50 {12}

Robertson P, Mahadevan S, 2014, Disentangling planets and stellar activity for GJ 667C. *ApJ*, 793, L24 {5}

Robertson P, Mahadevan S, Endl M, et al., 2014, Stellar activity masquerading as planets in the habitable zone of the M dwarf GJ 581. *Science*, 345, 440–444 {5}

—, 2015b, Response to Comment: Stellar activity masquerading as planets in the habitable zone of the M dwarf GJ 581. *Science*, 347, 1080–1080 {5}

Robertson P, Roy A, Mahadevan S, 2015c, Stellar activity mimics a habitable-zone planet around Kapteyn's Star. *ApJ*, 805, L22 {4}

Robichon N, Arenou F, 2000, HD 209458 planetary transits from Hipparcos photometry. *A&A*, 355, 295–298 {19}

Robinson EL, Cochran AL, Cochran WD, et al., 1990, A search for eclipses of HD 114762 by a low-mass companion. *AJ*, 99, 672–674 {10}

Robinson SE, Laughlin G, Vogt SS, et al., 2007, Two Jovian-mass planets in Earth-like orbits. *ApJ*, 670, 1391–1400 {6, 9}

Rodenbeck K, Heller R, Hippke M, et al., 2018, Revisiting the exomoon candidate signal around Kepler–1625 b. *A&A*, 617, A49 {36}

Rodet L, Beust H, Bonnefoy M, et al., 2017, Origin of the wide-orbit circumbinary giant planet HD 106906: a dynamical scenario and its impact on the disk. *A&A*, 602, A12 {53}

Rodigas TJ, Arriagada P, Faherty J, et al., 2016, MagAO Imaging of Long-period Objects (MILO). I. A benchmark M dwarf companion exciting a massive planet around the sun-like star HD 7449. *ApJ*, 818, 106 {6}

Rodigas TJ, Males JR, Hinz PM, et al., 2011, Direct imaging constraints on the putative exoplanet 14 Her c. *ApJ*, 732, 10 {3}

Rodler F, Kürster M, Barnes JR, 2013a, Detection of CO absorption in the atmosphere of the hot Jupiter HD 189733 b. *MNRAS*, 432, 1980–1988 {19}

Rodler F, Kürster M, Henning T, 2008, HD 75289A b revisited: searching for starlight reflected from a hot Jupiter. *A&A*, 485, 859–864 {9}

Rodler F, Kürster M, López-Morales M, et al., 2013b, The return of the mummy: evidence for starlight reflected from the massive hot Jupiter τ Boo b? *Astron. Nach.*, 334, 188 {2}

Rodler F, Lopez-Morales M, Ribas I, 2012, Weighing the non-transiting hot Jupiter τ Boo b. *ApJ*, 753, L25 {2}

Rodríguez A, Callegari N, Correia ACM, 2016, Coupled orbital and spin evolution of the CoRoT–7 two-planet system using a Maxwell viscoelastic rheology. *MNRAS*, 463, 3249–3259 {22}

Rodríguez A, Callegari N, Michtchenko TA, et al., 2012, Spin–orbit coupling for tidally evolving super-Earths. *MNRAS*, 427, 2239–2250 {6, 16, 27}

Rodríguez A, Ferraz-Mello S, Michtchenko TA, et al., 2011, Tidal decay and orbital circularisation in close-in two-planet systems. *MNRAS*, 415, 2349–2358 {22}

Rodríguez A, Gallardo T, 2005, The dynamics of the HD 12661 extrasolar planetary system. *ApJ*, 628, 1006–1013 {7}

Rodriguez DR, Zuckerman B, Melis C, et al., 2011, The ultracool brown dwarf companion of WD 0806–661B: age, mass, and formation. *ApJ*, 732, L29 {54}

Rodriguez JE, Becker JC, Eastman JD, et al., 2018a, A compact multi-planet system with a significantly misaligned ultra short period planet. *AJ*, 156, 245 {38}

Rodriguez JE, Colón KD, Stassun KG, et al., 2016, KELT–14 b and KELT–15 b: an independent discovery of WASP–122 b and a new hot Jupiter. *AJ*, 151, 138 {27}

Rodriguez JE, Vanderburg A, Eastman JD, et al., 2018b, A system of three super Earths transiting the late K dwarf GJ 9827 at 30 pc. *AJ*, 155, 72 {38}

Rodriguez JE, Zhou G, Vanderburg A, et al., 2017, A multi-planet system transiting the $V = 9$ rapidly rotating F-star HD 106315. *AJ*, 153, 256 {38}

Roettenbacher RM, Kane SR, 2017, The stellar activity of TRAPPIST–1 and consequences for the planetary atmospheres. *ApJ*, 851, 77 {40}

Rogers JC, Apai D, López-Morales M, et al., 2009, Ks-band detection of thermal emission and colour constraints to CoRoT–1 b: a low-albedo planet with inefficient atmospheric energy redistribution and a temperature inversion. *ApJ*, 707, 1707–1716 {21}

Rogers LA, Seager S, 2010a, A framework for quantifying the degeneracies of exoplanet interior compositions. *ApJ*, 712, 974–991 {16, 22, 24}

—, 2010b, Three possible origins for the gas layer on GJ 1214 b. *ApJ*, 716, 1208–1216 {23}

Rogers TM, 2017, Constraints on the magnetic field strength of HAT–P–7 b and other hot giant exoplanets. *Nature Astronomy*, 1, 0131 {24}

Rogers TM, Lin DNC, Lau HHB, 2012, Internal gravity waves modulate the apparent misalignment of exoplanets around hot stars. *ApJ*, 758, L6 {24}

Rogers TM, Showman AP, 2014, Magnetohydrodynamic simulations of the atmosphere of HD 209458 b. *ApJ*, 782, L4 {20}

Roman M, Rauscher E, 2017, Modeling the effects of inhomogeneous aerosols on the hot Jupiter Kepler–7 b atmospheric circulation. *ApJ*, 850, 17 {27}

Rosotti GP, Booth RA, Clarke CJ, et al., 2017, The origin of the eccentricity of the hot Jupiter in CI Tau. *MNRAS*, 464, L114–L118 {4}

Rostron JW, Wheatley PJ, Anderson DR, et al., 2014, The thermal emission of the exoplanet WASP–3 b. *MNRAS*, 441, 3666–3678 {42}

Rouan D, Deeg HJ, Demangeon O, et al., 2011, The orbital phases and secondary transits of Kepler–10 b: a physical interpretation based on the lava-ocean planet model. *ApJ*, 741, L30 {27}

Rouan D, Parviainen H, Moutou C, et al., 2012, Transiting exoplanets from the CoRoT space mission. XIX. CoRoT–23 b: a dense hot Jupiter on an eccentric orbit. *A&A*, 537, A54 {22}

Rowan D, Meschiari S, Laughlin G, et al., 2016, The Lick–Carnegie Exoplanet Survey: HD 32963, a new Jupiter analogue orbiting a Sun-like star. *ApJ*, 817, 104 {7}

Published by Cambridge University Press, ISBN 9781108419772

Rowe JF, Bryson ST, Marcy GW, et al., 2014, Validation of Kepler's multiple planet candidates. III. Light curve analysis and announcement of hundreds of new multi-planet systems. *ApJ*, 784, 45 {29, 30, 31, 32, 33, 34}

Rowe JF, Matthews JM, Seager S, et al., 2006, An upper limit on the albedo of HD 209458 b: direct imaging photometry with the MOST satellite. *ApJ*, 646, 1241–1251 {20}

—, 2008, The very low albedo of an extrasolar planet: MOST space-based photometry of HD 209458. *ApJ*, 689, 1345–1353 {20}

Roxburgh IW, 2017, Anomalies in the Kepler asteroseismic legacy project data: a re-analysis of 16 Cyg A and B, KIC–8379927 and 6 solar-like stars. *A&A*, 604, A42 {3}

Ruban EV, Arkharov AA, 2012, Effect of hot Jupiters on the variability of stellar radiation. *Astrophysics*, 55, 515–527 {2, 3}

Rugheimer S, Segura A, Kaltenegger L, et al., 2015, Ultraviolet surface environment of Earth-like planets orbiting FGKM stars through geological evolution. *ApJ*, 806, 137 {5}

Ryu T, Sato B, Kuzuhara M, et al., 2016, High-contrast imaging of intermediate-mass giants with long-term radial velocity trends. *ApJ*, 825, 127 {3, 6, 7}

Ryu YH, Yee JC, Udalski A, et al., 2018, OGLE–2016–BLG–1190L b: the first Spitzer bulge planet lies near the planet/brown-dwarf boundary. *AJ*, 155, 40 {50}

Rzhiga ON, 1985, Radar studies of other planetary systems. *Soviet Ast.*, 29, 290–293 {2}

Saad-Olivera X, Nesvorný D, Kipping DM, et al., 2017, Masses of Kepler–46 b, c from transit timing variations. *AJ*, 153, 198 {30}

Saar SH, Cuntz M, Kashyap VL, et al., 2008, First observation of planet-induced X-ray emission: the system HD 179949. *IAU Symp.*, volume 249, 79–81 {12}

Sacco G, Ngo LD, Modolo J, 2018, A 1574-d periodicity of transits orbiting KIC–8462852. *Journal of the American Association of Variable Star Observers (JAAVSO)*, 46, 14 {36}

Sada PV, Deming D, Jackson B, et al., 2010, Recent transits of the super-Earth exoplanet GJ 1214 b. *ApJ*, 720, L215–L218 {23}

Sada PV, Deming D, Jennings DE, et al., 2012, Extrasolar planet transits observed at KPNO. *PASP*, 124, 212–229 {24, 25, 42}

Sada PV, Ramón-Fox FG, 2016, Exoplanet transits registered at the Universidad de Monterrey Observatory. I. HAT–P–12 b, HAT–P–13 b, HAT–P–16 b, HAT–P–23 b, and WASP–10 b. *PASP*, 128(2), 024402 {24, 25, 42}

Sadovski AM, Struminsky AB, Belov A, 2018, Cosmic rays near Proxima Cen b. *Astronomy Letters*, 44, 324–330 {2}

Saffe C, Jofré E, Martioli E, et al., 2017, Signatures of rocky planet engulfment in HAT–P–4: implications for chemical tagging studies. *A&A*, 604, L4 {24}

Sahlmann J, Lazorenko PF, Ségransan D, et al., 2016, The mass of planet GJ 676A b from ground-based astrometry: a planetary system with two mature gas giants suitable for direct imaging. *A&A*, 595, A77 {5}

Sahu KC, Casertano S, Bond HE, et al., 2006, Transiting extrasolar planetary candidates in the Galactic bulge. *Nature*, 443, 534–540 {40}

Salinas VN, Hogerheijde MR, Murillo NM, et al., 2018, Exploring DCO^+ as a tracer of thermal inversion in the disk around the Herbig Ae star HD 163296. *A&A*, 616, A45 {11}

Sallum S, Follette KB, Eisner JA, et al., 2015, Accreting protoplanets in the LkCa 15 transition disk. *Nature*, 527, 342–344 {54}

Salz M, Czesla S, Schneider PC, et al., 2016, Simulating the escaping atmospheres of hot gas planets in the solar neighbourhood. *A&A*, 586, A75 {17, 19, 21, 23, 46}

—, 2018, Detection of He I 1083 nm absorption on HD 189733 b with CARMENES high-resolution transmission spectroscopy. *A&A*, 620, A97 {19}

Salz M, Schneider PC, Czesla S, et al., 2015, High-energy irradiation and mass loss rates of hot Jupiters in the solar neighbourhood. *A&A*, 576, A42 {21, 45, 46}

Samland M, Mollière P, Bonnefoy M, et al., 2017, Spectral and atmospheric characterization of 51 Eri b using VLT–SPHERE. *A&A*, 603, A57 {52}

Samuel B, Leconte J, Rouan D, et al., 2014, Constraining physics of very hot super-Earths with the James Webb Telescope: the case of CoRoT–7 b. *A&A*, 563, A103 {22}

Sanchis-Ojeda R, Fabrycky DC, Winn JN, et al., 2012, Alignment of the stellar spin with the orbits of a three-planet system. *Nature*, 487, 449–453 {29}

Sanchis-Ojeda R, Rappaport S, Pallé E, et al., 2015a, The K2–ESPRINT Project. I. Discovery of the disintegrating rocky planet K2–22 b with a cometary head and leading tail. *ApJ*, 812, 112 {37}

Sanchis-Ojeda R, Rappaport S, Winn JN, et al., 2013a, Transits and occultations of an Earth-sized planet in an 8.5-h orbit. *ApJ*, 774, 54 {31}

Sanchis-Ojeda R, Winn JN, 2011, Star spots, spin–orbit misalignment, and active latitudes in the HAT–P–11 exoplanetary system. *ApJ*, 743, 61 {24}

Sanchis-Ojeda R, Winn JN, Dai F, et al., 2015b, A low stellar obliquity for WASP–47, a compact multi-planet system with a hot Jupiter and an ultra-short period planet. *ApJ*, 812, L11 {45}

Sanchis-Ojeda R, Winn JN, Fabrycky DC, 2013b, Star spots and spin–orbit alignment for Kepler cool host stars. *Astron. Nach.*, 334, 180–183 {29}

Sanchis-Ojeda R, Winn JN, Holman MJ, et al., 2011, Star spots and spin–orbit alignment in the WASP–4 exoplanetary system. *ApJ*, 733, 127 {42}

Sanchis-Ojeda R, Winn JN, Marcy GW, et al., 2013c, Kepler–63 b: a giant planet in a polar orbit around a young Sun-like star. *ApJ*, 775, 54 {30}

Sándor Z, Kley W, 2006, On the evolution of the resonant planetary system HD 128311. *A&A*, 451, L31–L34 {10}

—, 2010, Formation of the resonant system HD 60532. *A&A*, 517, A31 {8}

Sándor Z, Kley W, Klagyivik P, 2007, Stability and formation of the resonant system HD 73526. *A&A*, 472, 981–992 {9}

Santerne A, Bonomo AS, Hébrard G, et al., 2011a, SOPHIE velocimetry of Kepler transit candidates. IV. KOI–196 b: a non-inflated hot Jupiter with a high albedo. *A&A*, 536, A70 {29}

Santerne A, Díaz RF, Bouchy F, et al., 2011b, SOPHIE velocimetry of Kepler transit candidates. II. KOI–428 b (Kepler–40): a hot Jupiter transiting a subgiant F-star. *A&A*, 528, A63 {29}

Santerne A, Hébrard G, Deleuil M, et al., 2014, SOPHIE velocimetry of Kepler transit candidates. XII. KOI–1257 b: a highly eccentric three-month period transiting exoplanet. *A&A*, 571, A37 {34}

Santerne A, Hébrard G, Lillo-Box J, et al., 2016, K2–29 b/WASP–152 b: an aligned and inflated hot Jupiter in a young visual binary. *ApJ*, 824, 55 {37}

Santerne A, Moutou C, Barros SCC, et al., 2012, SOPHIE velocimetry of Kepler transit candidates. VI. An additional companion in the KOI–13 system. *A&A*, 544, L12 {28}

Santos NC, Adibekyan V, Mordasini C, et al., 2015a, Constraining planet structure from stellar chemistry: the cases of CoRoT–7, Kepler–10, and Kepler–93. *A&A*, 580, L13 {22, 27, 31}

Santos NC, Bouchy F, Mayor M, et al., 2004, The HARPS search for southern extrasolar planets. II. A 14 Earth-masses exoplanet around μ Ara. *A&A*, 426, L19–L23 {1}

Santos NC, Ecuvillon A, Israelian G, et al., 2006a, Chemical abundances for the transiting planet host stars OGLE–TR–10, OGLE–TR–56, OGLE–TR–111, OGLE–TR–113, OGLE–TR–132, and TrES–1. Abundances in different galactic populations. *A&A*, 458, 997–1005 {39, 40}

Santos NC, Israelian G, Mayor M, 2000a, Chemical analysis of 8 recently discovered extrasolar planet host stars. *A&A*, 363, 228–238 {8, 9, 11, 12}

Santos NC, Martins JHC, Boué G, et al., 2015b, Detecting ring systems around exoplanets using high resolution spectroscopy: the case of 51 Peg b. *A&A*, 583, A50 {4}

Santos NC, Mayor M, Benz W, et al., 2010, The HARPS search for southern extrasolar planets. XXI. Three new giant planets orbiting the metal-poor stars HD 5388, HD 181720, and HD 190984. *A&A*, 512, A47 {6, 12}

Santos NC, Mayor M, Bonfils X, et al., 2011, The HARPS search for southern extrasolar planets. XXV. Results from the metal-poor sample. *A&A*, 526, A112 {12}

Santos NC, Mayor M, Bouchy F, et al., 2007, The HARPS search for southern extrasolar planets. XII. A giant planet orbiting the metal-poor star HD 171028. *A&A*, 474, 647–651 {12}

Santos NC, Mayor M, Naef D, et al., 2000b, The CORALIE survey for southern extrasolar planets. III. A giant planet in orbit around HD 192263. *A&A*, 356, 599–602 {12}

—, 2001, The CORALIE survey for southern extrasolar planets. VI. New long period giant planets around HD 28185 and HD 213240. *A&A*, 379, 999–1004 {7, 13}

—, 2002, The CORALIE survey for southern extrasolar planets. IX. A 1.3-day period brown dwarf disguised as a planet. *A&A*, 392, 215–229 {8}

Santos NC, Mortier A, Faria JP, et al., 2014, The HARPS search for southern extrasolar planets. XXXV. The interesting case of HD 41248: stellar activity, no planets? *A&A*, 566, A35 {8}

Santos NC, Pont F, Melo C, et al., 2006b, High-resolution spectroscopy of stars with transiting planets. The cases of OGLE–TR–10, OGLE–TR–56, OGLE–TR–111, OGLE–TR–113, and TrES–1. *A&A*, 450, 825–831 {39, 40}

Santos NC, Santerne A, Faria JP, et al., 2016, An extreme planetary system around HD 219828: one long-period super Jupiter to a hot-Neptune host star. *A&A*, 592, A13 {13}

Santos NC, Udry S, Bouchy F, et al., 2008, ELODIE metallicity-biased search for transiting hot Jupiters. V. An intermediate-period Jovian planet orbiting HD 45652. *A&A*, 487, 369–372 {8}

Santos NC, Udry S, Mayor M, et al., 2003, The CORALIE survey for southern extrasolar planets. XI. The return of the giant planet orbiting HD 192263. *A&A*, 406, 373–381 {12}

Sanz-Forcada J, Desidera S, Micela G, 2014, Effects of X-ray and extreme UV radiation on circumbinary planets. *A&A*, 570, A50 {30}

Sarkis P, Henning T, Hartman JD, et al., 2018a, HATS–59 b,c: a transiting hot Jupiter and a cold massive giant planet around a Sun-like star. *AJ*, 156, 216 {26}

Sarkis P, Henning T, Kürster M, et al., 2018b, The CARMENES search for exoplanets around M dwarfs: a low-mass planet in the temperate zone of the nearby K2–18. *AJ*, 155, 257 {37}

Sasaki T, Barnes JW, 2014, Longevity of moons around habitable planets. *Int. J. Astrobiol.*, 13, 324–336 {30}

Sasselov DD, 2003, The new transiting planet OGLE–TR–56 b: orbit and atmosphere. *ApJ*, 596, 1327–1331 {39}

Sato B, Ando H, Kambe E, et al., 2003, A planetary companion to the G-type giant star HD 104985. *ApJ*, 597, L157–L160 {10}

Sato B, Fischer DA, Henry GW, et al., 2005, The N2K consortium. II. A transiting hot Saturn around HD 149026 with a large dense core. *ApJ*, 633, 465–473 {17}

Sato B, Hartman JD, Bakos GÁ, et al., 2012a, HAT–P–38 b: a Saturn-mass planet transiting a late G star. *PASJ*, 64, 97 {26}

Sato B, Hirano T, Omiya M, et al., 2015, Precise radial velocity measurements for Kepler giants hosting planetary candidates: Kepler–91 and KOI–1894. *ApJ*, 802, 57 {31, 36}

Sato B, Izumiura H, Toyota E, et al., 2007, A planetary companion to the Hyades giant ϵ Tau. *ApJ*, 661, 527–531 {4}

—, 2008a, Planetary companions around three intermediate-mass G and K giants: 18 Del, ξ Aql, and HD 81688. *PASJ*, 60, 539–550 {1, 3, 9}

Sato B, Omiya M, Harakawa H, et al., 2012b, Substellar companions to seven evolved intermediate-mass stars. *PASJ*, 64, 135 {3, 4, 6}

—, 2013a, Planetary companions to three evolved intermediate-mass stars: HD 2952, HD 120084, and ω Ser. *PASJ*, 65, 85 {4, 6, 10}

Sato B, Omiya M, Liu Y, et al., 2010, Substellar companions to evolved intermediate-mass stars: HD 145457 and HD 180314. *PASJ*, 62, 1063–1069 {11, 12}

Sato B, Omiya M, Wittenmyer RA, et al., 2013b, A double planetary system around the evolved intermediate-mass star HD 4732. *ApJ*, 762, 9 {6}

Sato B, Toyota E, Omiya M, et al., 2008b, Planetary companions to evolved intermediate-mass stars: 14 And, 81 Cet, 6 Lyn, and HD 167042. *PASJ*, 60, 1317–1326 {1, 3, 11}

Sato B, Wang L, Liu YJ, et al., 2016, A pair of giant planets around the evolved intermediate-mass star HD 47366: multiple circular orbits or a mutually retrograde configuration. *ApJ*, 819, 59 {8}

Satyal S, Griffith J, Musielak ZE, 2017, Dynamics of a probable Earth-mass planet in the GJ 832 system. *ApJ*, 845, 106 {5}

Satyal S, Hinse TC, Quarles B, et al., 2014, Chaotic dynamics of the planet in HD 196885AB. *MNRAS*, 443, 1310–1318 {12}

Satyal S, Musielak ZE, 2016, Stability of a planet in the HD 41004 binary system. *Astron. Nach.*, 337, 300 {8}

Satyal S, Quarles B, Hinse TC, 2013, Application of chaos indicators in the study of dynamics of S-type extrasolar planets in stellar binaries. *MNRAS*, 433, 2215–2225 {3, 12}

Saur J, Grambusch T, Duling S, et al., 2013, Magnetic energy fluxes in sub-Alfvén planet–star and moon–planet interactions. *A&A*, 552, A119 {12}

Savanov IS, 2011, Stellar activity observed by the Kepler space telescope: the systems with two planets and two active longitudes KOI–877 and KOI–896. *Astronomy Reports*, 55, 341–346 {31, 33}

Savanov IS, Dmitrienko ES, 2013, Stellar activity observed by the Kepler Space Telescope: the M dwarf of the Kepler–32 system with five orbiting planets. *Astronomy Reports*, 57, 757–765 {29}

—, 2015, Activity of KOI–877 and KOI–896 observed by Kepler. *Astronomy Reports*, 59, 397–403 {29, 31, 33}

Scandariato G, Maggio A, Lanza AF, et al., 2013, A coordinated optical and X-ray spectroscopic campaign on HD 179949: searching for planet-induced chromospheric and coronal activity. *A&A*, 552, A7 {12}

Schaefer BE, 2016, KIC–8462852 faded at an average rate of 0.164 ± 0.013 magnitudes per century from 1890 to 1989. *ApJ*, 822, L34 {36}

Schaefer L, Wordsworth RD, Berta-Thompson Z, et al., 2016, Predictions of the atmospheric composition of GJ 1132 b. *ApJ*, 829, 63 {23}

Scheffer LK, 2014, Investigating nearby exoplanets via interstellar radar. *Int. J. Astrobiol.*, 13, 62–68 {2}

Schlawin E, Agol E, Walkowicz LM, et al., 2010, Exoplanetary transits of limb-brightened lines: tentative Si IV absorption by HD 209458 b. *ApJ*, 722, L75–L79 {20}

Schlawin E, Greene TP, Line M, et al., 2018a, Clear and cloudy exoplanet forecasts for JWST: maps, retrieved composition, and constraints on formation with MIRI and NIRCam. *AJ*, 156, 40 {17, 19, 25, 46, 47}

Schlawin E, Hirano T, Kawahara H, et al., 2018b, Back to normal for the disintegrating planet candidate KIC–12557548 b. *AJ*, 156, 281 {36}

Schlawin E, Zhao M, Teske JK, et al., 2014, A 0.8–2.4 μm transmission spectrum of the hot Jupiter CoRoT–1 b. *ApJ*, 783, 5 {21}

Schlieder JE, Crossfield IJM, Petigura EA, et al., 2016, Two small temperate planets transiting nearby M dwarfs in K2 Campaigns 0 and 1. *ApJ*, 818, 87 {37}

Schmidt TOB, Neuhäuser R, Briceño C, et al., 2016, Direct imaging discovery of a second planet candidate around the possibly transiting planet host CVSO 30 (PTFO 8–8695). *A&A*, 593, A75 {39}

Schmidt TOB, Neuhäuser R, Mugrauer M, et al., 2009, New astrometry and photometry for the companion candidates of CT Cha. *Amer. Inst. Phys. Conf. Ser.*, volume 1094, 852–855 {51}

Schmidt TOB, Neuhäuser R, Seifahrt A, et al., 2008, Direct evidence of a sub-stellar companion around CT Cha. *A&A*, 491, 311–320 {51}

Schmitt JHMM, Mittag M, 2017, Further evidence for a sub-year magnetic chromospheric activity cycle and activity phase jumps in the planet host τ Boo. *A&A*, 600, A120 {2}

Schmitt JR, Agol E, Deck KM, et al., 2014a, Planet Hunters. VII. Discovery of a new low-mass, low-density planet (PH3 C) orbiting Kepler–289 with mass measurements of two additional planets (PH3 B and D). *ApJ*, 795, 167 {33}

Schmitt JR, Jenkins JM, Fischer DA, 2017, A search for lost planets in the Kepler multi-planet systems and the discovery of the long-period, Neptune-sized exoplanet Kepler–150 f. *AJ*, 153, 180 {32, 33}

Schmitt JR, Wang J, Fischer DA, et al., 2014b, Planet Hunters. VI. An independent characterisation of KOI–351 and several long period planet candidates from the Kepler archival data. *AJ*, 148, 28 {31}

Schneider G, Becklin EE, Smith BA, et al., 2001, NICMOS coronagraphic observations of 55 Cnc. *AJ*, 121, 525–537 {16}

Schneider G, Debes JH, Grady CA, et al., 2018, The HR 4796A debris system: discovery of extensive exo-ring dust material. *AJ*, 155, 77 {52}

Schneiter EM, Esquivel A, D'Angelo CSV, et al., 2016, Photoionisation of planetary winds: case study HD 209458 b. *MNRAS*, 457, 1666–1674 {21}

Schneiter EM, Velázquez PF, Esquivel A, et al., 2007, Three-dimensional hydrodynamical simulation of the exoplanet HD 209458 b. *ApJ*, 671, L57–L60 {20}

Scholz A, Jayawardhana R, Brandeker A, 2005, Whims of an accreting young brown dwarf: exploring the emission-line variability of 2M J1207. *ApJ*, 629, L41–L44 {54}

Schröter S, Czesla S, Wolter U, et al., 2011, The corona and companion of CoRoT–2: insights from X-rays and optical spectroscopy. *A&A*, 532, A3 {21}

Schröter S, Schmitt JHMM, Müller HM, 2012, A consistent analysis of three years of ground- and space-based photometry of TrES–2. *A&A*, 539, A97 {41}

Schuetz M, Vakoch DA, Shostak S, et al., 2016, Optical SETI observations of the anomalous star KIC–8462852. *ApJ*, 825, L5 {36}

Schuler SC, Cunha K, Smith VV, et al., 2011, Detailed abundances of the solar twins 16 Cyg A and B: constraining planet formation models. *ApJ*, 737, L32 {3}

Schuler SC, Kim JH, Tinker MC, et al., 2005, High-resolution spectroscopy of the planetary host HD 13189: highly evolved and metal-poor. *ApJ*, 632, L131–L134 {7}

Schütz O, Nielbock M, Wolf S, et al., 2004, SIMBA's view of the ϵ Eri disk. *A&A*, 414, L9–L12 {3}

Schwamb ME, Orosz JA, Carter JA, et al., 2013, Planet Hunters: a transiting circumbinary planet in a quadruple star system. *ApJ*, 768, 127 {30}

Schwartz JC, Cowan NB, 2015, Balancing the energy budget of short-period giant planets: evidence for reflective clouds and optical absorbers. *MNRAS*, 449, 4192–4203 {18, 19, 21, 43, 44, 45}

Schwartz JC, Kashner Z, Jovmir D, et al., 2017, Phase offsets and the energy budgets of hot Jupiters. *ApJ*, 850, 154 {43}

Schwarz H, Brogi M, de Kok R, et al., 2015, Evidence against a strong thermal inversion in HD 209458 b from high-dispersion spectroscopy. *A&A*, 576, A111 {21}

Schwarz H, Ginski C, de Kok RJ, et al., 2016, The slow spin of the young substellar companion GQ Lup b and its orbital configuration. *A&A*, 593, A74 {52}

Schwarz R, Bazsó Á, Georgakarakos N, et al., 2018, Exocomets in the Proxima Cen system and their importance for water transport. *MNRAS*, 480, 3595–3608 {2}

Schwarz R, Dvorak R, Pilat Lohinger E, et al., 2007, Trojan planets in HD 108874? *A&A*, 462, 1165–1170 {10}

Scuderi LJ, Dittmann JA, Males JR, et al., 2010, On the apparent orbital inclination change of the extrasolar transiting planet TrES–2 b. *ApJ*, 714, 462–468 {40}

Seager S, Deming D, 2009, On the method to infer an atmosphere on a tidally-locked super Earth exoplanet and upper limits to GJ 876 d. *ApJ*, 703, 1884–1889 {5}

Sedaghati E, Boffin HMJ, Csizmadia S, et al., 2015, Regaining the FORS: optical ground-based transmission spectroscopy of the exoplanet WASP–19 b with VLT–FORS2. *A&A*, 576, L11 {44}

Sedaghati E, Boffin HMJ, Delrez L, et al., 2017, Probing the atmosphere of a sub-Jovian planet orbiting a cool dwarf. *MNRAS*, 468, 3123–3134 {46}

Sedaghati E, Boffin HMJ, Jeřabková T, et al., 2016, Potassium detection in the clear atmosphere of a hot-Jupiter: FORS2 transmission spectroscopy of WASP–17 b. *A&A*, 596, A47 {43}

See V, Jardine M, Fares R, et al., 2015, Time-scales of close-in exoplanet radio emission variability. *MNRAS*, 450, 4323–4332 {2, 12, 19}

Seeliger M, Dimitrov D, Kjurkchieva D, et al., 2014, Transit timing analysis in the HAT–P–32 system. *MNRAS*, 441, 304–315 {25}

Seeliger M, Kitze M, Errmann R, et al., 2015, Ground-based transit observations of the HAT–P–18, HAT–P–19, HAT–P–27/WASP–40 and WASP–21 systems. *MNRAS*, 451, 4060–4072 {25, 44}

Ségransan D, Mayor M, Udry S, et al., 2011, The HARPS search for southern extrasolar planets. XXIX. Four new planets in orbit around the moderately active dwarfs HD 63765, HD 104067, HD 125595, and HIP 70849. *A&A*, 535, A54 {8, 10, 13}

Ségransan D, Udry S, Mayor M, et al., 2010, The CORALIE survey for southern extra-solar planets. XVI. Discovery of a planetary system around HD 147018 and of two long-period and massive planets orbiting HD 171238 and HD 204313. *A&A*, 511, A45 {11, 12}

Seifahrt A, Neuhäuser R, Hauschildt PH, 2007, Near-infrared integral-field spectroscopy of the companion to GQ Lup. *A&A*, 463, 309–313 {52}

Seligman D, Laughlin G, 2018, The feasibility and benefits of in situ exploration of Oumuamua-like objects. *AJ*, 155, 217 {55}

Selsis F, Kasting JF, Levrard B, et al., 2007, Habitable planets around the star GJ 581? *A&A*, 476, 1373–1387 {5}

Sengupta S, 2008, Cloudy atmosphere of the extrasolar planet HD 189733 b: a possible explanation of the detected B-band polarisation. *ApJ*, 683, L195–L198 {18}

—, 2018, Polarisation of TRAPPIST–1 by the transit of its planets. *ApJ*, 861, 41 {40}

Setiawan J, Hatzes AP, von der Lühe O, et al., 2003, Evidence of a sub-stellar companion around HD 47536. *A&A*, 398, L19–L23 {8}

Setiawan J, Klement RJ, Henning T, et al., 2010, A giant planet around a metal-poor star of extragalactic origin. *Science*, 330, 1642–1644 {13}

Setiawan J, Roccatagliata V, Fedele D, et al., 2012, Planetary companions around the metal-poor star HIP 11952. *A&A*, 540, A141 {13}

Setiawan J, Rodmann J, da Silva L, et al., 2005, A substellar companion around the intermediate-mass giant star HD 11977. *A&A*, 437, L31–L34 {7}

Setiawan J, Weise P, Henning T, et al., 2007, Evidence for a planetary companion around a nearby young star. *ApJ*, 660, L145–L148 {9}

Setterholm BR, Monnier JD, Davies CL, et al., 2018, Probing the inner disk emission of the Herbig Ae stars HD 163296 and HD 190073. *ApJ*, 869, 164 {11}

Shabram M, Fortney JJ, Greene TP, et al., 2011, Transmission spectra of transiting planet atmospheres: model validation and simulations of the hot Neptune GJ 436 b for the JWST. *ApJ*, 727, 65 {17}

Shahnas MH, Pysklywec RN, Yuen DA, 2018, Penetrative convection in super-Earth planets: consequences of $MgSiO_3$ post-perovskite dissociation transition and implications for super-Earth GJ 876 d. *Journal of Geophysical Research (Planets)*, 123, 2162–2177 {6}

Shaikhislamov IF, Khodachenko ML, Lammer H, et al., 2018, Modeling of absorption by heavy minor species for the hot Jupiter HD 209458 b. *ApJ*, 866, 47 {21}

Shallue CJ, Vanderburg A, 2018, Identifying exoplanets with deep learning: a five planet resonant chain around Kepler–80 and an eighth planet around Kepler–90. *AJ*, 155, 94 {31}

Shan Y, Li G, 2018, Obliquity variations of habitable zone planets Kepler–62 f and Kepler–186 f. *AJ*, 155, 237 {30, 33}

Shankland PD, Blank DL, Boboltz DA, et al., 2008, Further constraints on the presence of a debris disk in the multi-planet system GJ 876. *AJ*, 135, 2194–2198 {5}

Shankland PD, Rivera EJ, Laughlin G, et al., 2006, On the search for transits of the planets orbiting GJ 876. *ApJ*, 653, 700–707 {5}

Shara MM, Hurley JR, Mardling RA, 2016, Dynamical interactions make hot Jupiters in open star clusters. *ApJ*, 816, 59 {6, 17, 23, 25}

Sheets HA, Deming D, 2014, Statistical eclipses of close-in Kepler sub-Saturns. *ApJ*, 794, 133 {27}

—, 2017, Average albedos of close-in super-Earths and super-Neptunes from statistical analysis of long-cadence Kepler secondary eclipse data. *AJ*, 154, 160 {27}

Shematovich VI, 2010, Suprathermal hydrogen produced by the dissociation of molecular hydrogen in the extended atmosphere of exoplanet HD 209458 b. *Sol. Syst. Res.*, 44, 96–103 {20}

Sheppard KB, Mandell AM, Tamburo P, et al., 2017, Evidence for a day-side thermal inversion and high metallicity for the hot Jupiter WASP–18 b. *ApJ*, 850, L32 {44}

Shields AL, Barnes R, Agol E, et al., 2016, The effect of orbital configuration on the possible climates and habitability of Kepler–62 f. *Astrobiology*, 16, 443–464 {30}

Shin IG, Ryu YH, Udalski A, et al., 2016, A super-Jupiter microlens planet characterised by high-cadence KMTNeT microlensing survey observations of OGLE–2015–BLG–954. *Journal of Korean Astronomical Society*, 49, 73–81 {50}

Shkolnik E, Walker GAH, Bohlender DA, 2003, Evidence for planet-induced chromo-

spheric activity on HD 179949. *ApJ*, 597, 1092–1096 {12}
Shkolnik E, Walker GAH, Bohlender DA, et al., 2005, Hot Jupiters and hot spots: the short- and long-term chromospheric activity on stars with giant planets. *ApJ*, 622, 1075–1090 {1, 9, 12}
Shliakhetska Y, Kuznyetsova Y, Vidmachenko A, et al., 2014, Variability of spectral lines of extrasolar system HD 189733 during a transit. *Astronomical School's Report*, 10, 147–151 {19}
Short D, Windmiller G, Orosz JA, 2008, New solutions for the planetary dynamics in HD 160691 using a Newtonian model and latest data. *MNRAS*, 386, L43–L46 {1}
Showman AP, Cooper CS, Fortney JJ, et al., 2008, Atmospheric circulation of hot Jupiters: 3d circulation models of HD 209458 b and HD 189733 b with simplified forcing. *ApJ*, 682, 559–576 {18, 20}
Showman AP, Fortney JJ, Lewis NK, et al., 2013, Doppler signatures of atmospheric circulation on hot Jupiters. *ApJ*, 762, 24 {17, 19, 20}
Showman AP, Fortney JJ, Lian Y, et al., 2009, Atmospheric circulation of hot Jupiters: coupled radiative-dynamical general circulation model simulations of HD 189733 b and HD 209458 b. *ApJ*, 699, 564–584 {18, 20}
Showman AP, Guillot T, 2002, Atmospheric circulation and tides of 51 Peg b-like planets. *A&A*, 385, 166–180 {3}
Showman AP, Polvani LM, 2011, Equatorial superrotation on tidally-locked exoplanets. *ApJ*, 738, 71 {18}
Shporer A, Bakos GÁ, Bouchy F, et al., 2009, HAT–P–9 b: a low-density planet transiting a moderately faint F star. *ApJ*, 690, 1393–1400 {24}
Shporer A, Hu R, 2015, Studying atmosphere-dominated hot Jupiter Kepler phase curves: evidence that inhomogeneous atmospheric reflection is common. *AJ*, 150, 112 {27, 28, 30}
Shporer A, Jenkins JM, Rowe JF, et al., 2011, Detection of KOI–13.01 using the photometric orbit. *AJ*, 142, 195 {28}
Shporer A, O'Rourke JG, Knutson HA, et al., 2014, Atmospheric characterisation of the hot Jupiter Kepler–13A b. *ApJ*, 788, 92 {28}
Shporer A, Tamuz O, Zucker S, et al., 2007, Photometric follow-up of the transiting planet WASP–1 b. *MNRAS*, 376, 1296–1300 {41}
Shporer A, Winn JN, Dreizler S, et al., 2010, Ground-based multi-site observations of two transits of HD 80606 b. *ApJ*, 722, 880–887 {17}
Shporer A, Zhou G, Fulton BJ, et al., 2017a, K2–114 b and K2–115 b: two transiting warm Jupiters. *AJ*, 154, 188 {38}
Shporer A, Zhou G, Vanderburg A, et al., 2017b, Three statistically validated K2 transiting warm Jupiter exoplanets confirmed as low-mass stars. *ApJ*, 847, L18 {37, 38}
Shvartzvald Y, Calchi Novati S, Gaudi BS, et al., 2018, UKIRT–2017–BLG–001L b: a giant planet detected through the dust. *ApJ*, 857, L8 {50}
Shvartzvald Y, Maoz D, Kaspi S, et al., 2014, MOA–2011–BLG–322L b: a second generation survey microlensing planet. *MNRAS*, 439, 604–610 {49}
Shvartzvald Y, Yee JC, Calchi Novati S, et al., 2017, An Earth-mass planet in a 1 au orbit around an ultracool dwarf. *ApJ*, 840, L3 {50}
Silburt A, Rein H, 2017, Resonant structure, formation and stability of the planetary system HD 155358. *MNRAS*, 469, 4613–4619 {11}
Silva L, Vladilo G, Murante G, et al., 2017, Quantitative estimates of the surface habitability of Kepler-452b. *MNRAS*, 470, 2270–2282 {35}
Silva-Valio A, Lanza AF, 2011, Time evolution and rotation of star spots on CoRoT–2 from the modelling of transit photometry. *A&A*, 529, A36 {21}
Silva-Valio A, Lanza AF, Alonso R, et al., 2010, Properties of star spots on CoRoT–2. *A&A*, 510, A25 {21}
Silvotti R, Charpinet S, Green E, et al., 2014, Kepler detection of a new extreme planetary system orbiting the subdwarf-B pulsator Kepler–429 (KIC–10001893). *A&A*, 570, A130 {34}
Simon JD, Shappee BJ, Pojmański G, et al., 2018, Where is the flux going? The long-term photometric variability of Boyajian's star. *ApJ*, 853, 77 {36}
Simpson EK, Barros SCC, Brown DJA, et al., 2011a, Independent discovery of the transiting exoplanet HAT–P–14 b. *AJ*, 141, 161–167 {25}
Simpson EK, Faedi F, Barros SCC, et al., 2011b, WASP–37 b: a 1.8 Jupiter-mass exoplanet transiting a metal-poor star. *AJ*, 141, 8–12 {45}
Simpson EK, Pollacco D, Collier Cameron A, et al., 2011c, The spin–orbit angles of the transiting exoplanets WASP–1 b, WASP–24 b, WASP–38 b and HAT–P–8 b from Rossiter–McLaughlin observations. *MNRAS*, 414, 3023–3035 {24, 41, 44, 45}
Simpson EK, Pollacco DL, Hébrard G, et al., 2010, The spin–orbit alignment of the transiting exoplanet WASP–3 b from Rossiter–McLaughlin observations. *MNRAS*, 405, 1867–1872 {41}
Sing DK, Désert J, Lecavelier Des Etangs A, et al., 2009, Transit spectrophotometry of the exoplanet HD 189733 b. I. Searching for water but finding haze with HST NICMOS. *A&A*, 505, 891–899 {18}
Sing DK, Désert JM, Fortney JJ, et al., 2011a, GTC–OSIRIS transiting exoplanet atmospheric survey: detection of K in XO–2 b from narrow-band spectrophotometry. *A&A*, 527, A73 {48}
Sing DK, Fortney JJ, Nikolov N, et al., 2016, A continuum from clear to cloudy hot-Jupiter exoplanets without primordial water depletion. *Nature*, 529, 59–62 {19, 21, 23, 24, 42, 43, 44, 45}
Sing DK, Huitson CM, Lopez-Morales M, et al., 2012, GTC–OSIRIS transiting exoplanet atmospheric survey: detection of sodium in XO–2 b from differential long-slit spectroscopy. *MNRAS*, 426, 1663–1670 {48}
Sing DK, Lecavelier des Etangs A, Fortney JJ, et al., 2013, HST hot-Jupiter transmission spectral survey: evidence for aerosols and lack of TiO in the atmosphere of WASP–12 b. *MNRAS*, 436, 2956–2973 {43}
Sing DK, López-Morales M, 2009, Ground-based secondary eclipse detection of the very-hot Jupiter OGLE–TR–56 b. *A&A*, 493, L31–L34 {39}
Sing DK, Pont F, Aigrain S, et al., 2011b, Transmission spectroscopy of HD 189733 b: high-altitude atmospheric haze in the optical/near-UV with HST–STIS. *MNRAS*, 416, 1443–1455 {18}
Sing DK, Vidal-Madjar A, Désert JM, et al., 2008a, HST–STIS optical transit transmission spectra of the hot Jupiter HD 209458 b. *ApJ*, 686, 658–666 {20}
Sing DK, Vidal-Madjar A, Lecavelier des Etangs A, et al., 2008b, Determining atmospheric conditions at the terminator of the hot Jupiter HD 209458 b. *ApJ*, 686, 667–673 {20}
Sing DK, Wakeford HR, Showman AP, et al., 2015, HST hot-Jupiter transmission spectral survey: detection of potassium in WASP–31 b along with a cloud deck and Rayleigh scattering. *MNRAS*, 446, 2428–2443 {44}
Sinukoff E, Howard AW, Petigura EA, et al., 2016, Eleven multi-planet systems from K2 campaigns 1 and 2, and the masses of two hot super-Earths. *ApJ*, 827, 78 {37}
—, 2017a, K2–66 b and K2–106 b: two extremely hot sub-Neptune-size planets with high densities. *AJ*, 153, 271 {38}
—, 2017b, Mass constraints of the WASP–47 planetary system from radial velocities. *AJ*, 153, 70 {45}
Sirothia SK, Lecavelier des Etangs A, Gopal-Krishna, et al., 2014, Search for 150 MHz radio emission from exoplanets in the TIFR GMRT Sky Survey. *A&A*, 562, A108 {4, 8, 9, 11, 46, 54}
Sissa E, Gratton R, Garufi A, et al., 2018, High-contrast study of the candidate planets and protoplanetary disk around HD 100546. *A&A*, 619, A160 {53}
Siverd RJ, Beatty TG, Pepper J, et al., 2012, KELT–1 b: a strongly irradiated, highly-inflated, short period, $27M_J$ companion transiting a mid-F star. *ApJ*, 761, 123 {26}
Siverd RJ, Collins KA, Zhou G, et al., 2018, KELT–19A b: a 4.6-d hot Jupiter transiting a likely Am star with a distant stellar companion. *AJ*, 155, 35 {27}
Skemer AJ, Close LM, Szűcs L, et al., 2011, Evidence against an edge-on disk around 2M J1207 b and a new thick-cloud explanation for its underluminosity. *ApJ*, 732, 107 {54}
Skemer AJ, Hinz PM, Esposito S, et al., 2012, First light LBT AO images of HR 8799 bcde at 1.6 and 3.3 μm: discrepancies between young planets and old brown dwarfs. *ApJ*, 753, 14 {53}
Skemer AJ, Marley MS, Hinz PM, et al., 2014, Directly imaged L–T transition exoplanets in the mid-infrared. *ApJ*, 792, 17 {53, 54}
Skemer AJ, Morley CV, Zimmerman NT, et al., 2016, The LEECH Exoplanet Imaging Survey: characterisation of the coldest directly imaged exoplanet, GJ 504 b, and evidence for superstellar metallicity. *ApJ*, 817, 166 {52}
Skillen I, Pollacco D, Collier Cameron A, et al., 2009, The $0.5M_J$ transiting exoplanet WASP–13 b. *A&A*, 502, 391–394 {43}
Skinner SL, Güdel M, 2017, XMM–Newton X-ray observations of LkCa 15: a T Tauri star with a formative planetary system. *ApJ*, 839, 45 {54}
Skowron J, Ryu YH, Hwang KH, et al., 2018, OGLE–2017–BLG–0373L b: a Jovian mass-ratio planet exposes a new accidental microlensing degeneracy. *Acta Astronomica*, 68, 43–61 {50}
Skowron J, Shin IG, Udalski A, et al., 2015, OGLE–2011–BLG–265L b: a Jovian microlensing planet orbiting an M dwarf. *ApJ*, 804, 33 {50}
Skowron J, Udalski A, Poleski R, et al., 2016, MOA–2011–BLG–28L b: a Neptune-mass microlensing planet in the Galactic bulge. *ApJ*, 820, 4 {49}
Skowron J, Udalski A, Szymański MK, et al., 2014, New method to measure proper motions of microlensed sources: application to candidate free-floating planet event MOA–2011–BLG–262. *ApJ*, 785, 156 {49}
Smalley B, Anderson DR, Collier Cameron A, et al., 2010, WASP–26 b: a 1-Jupiter-mass planet around an early G-type star. *A&A*, 520, A56 {44}
—, 2011, WASP–34 b: a near-grazing transiting sub-Jupiter-mass exoplanet in a hierarchical triple system. *A&A*, 526, A130 {45}
—, 2012, WASP–78 b and WASP–79 b: two highly-bloated hot Jupiter-mass exoplanets orbiting F-type stars in Eridanus. *A&A*, 547, A61 {46}
Smith AMS, 2015, The properties of XO–5 b and WASP–82 b redetermined using new high-precision transit photometry and global data analyses. *Acta Astronomica*, 65 {46, 48}
Smith AMS, Anderson DR, Armstrong DJ, et al., 2014, WASP–104 b and WASP–106 b: two transiting hot Jupiters in 1.75-day and 9.3-day orbits. *A&A*, 570, A64 {47}
Smith AMS, Anderson DR, Bouchy F, et al., 2013, WASP–71 b: a bloated hot Jupiter in an 2.9-d, prograde orbit around an evolved F8 star. *A&A*, 552, A120 {46}
Smith AMS, Anderson DR, Collier Cameron A, et al., 2012a, WASP–36 b: a new transiting planet around a metal-poor G-dwarf, and an investigation into analyses based on a single transit light curve. *AJ*, 143, 81 {45}
Smith AMS, Anderson DR, Madhusudhan N, et al., 2012b, Thermal emission from WASP–24 b at 3.6 and 4.5 μm. *A&A*, 545, A93 {44}
Smith AMS, Anderson DR, Skillen I, et al., 2011, Thermal emission from WASP–33 b, the hottest known planet. *MNRAS*, 416, 2096–2101 {44}
Smith AMS, Cabrera J, Csizmadia S, et al., 2018, K2–137 b: an Earth-sized planet in a 4.3-h orbit around an M-dwarf. *MNRAS*, 474, 5523–5533 {38}
Smith AMS, Collier Cameron A, Greaves J, et al., 2009a, Secondary radio eclipse of the transiting planet HD 189733 b: an upper limit at 307–347 MHz. *MNRAS*, 395, 335–341 {18}
Smith AMS, Gandolfi D, Barragán O, et al., 2017, K2–99: a subgiant hosting a transiting warm Jupiter in an eccentric orbit and a long-period companion. *MNRAS*, 464, 2708–2716 {38}
Smith BA, Terrile RJ, 1984, A circumstellar disk around β Pic. *Science*, 226, 1421–1424 {52}
Smith R, Wyatt MC, Haniff CA, 2009b, Resolving the hot dust around HD 69830 and η Crv with MIDI and VISIR. *A&A*, 503, 265–279 {8}
Smith VV, Cunha K, Lazzaro D, 2001, The abundance distribution in the exolanet host star HD 19994. *AJ*, 121, 3207–3218 {7}
Smullen RA, Kratter KM, Shannon A, 2016, Planet scattering around binaries: ejections, not collisions. *MNRAS*, 461, 1288–1301 {30}
Snellen IAG, 2005, High-precision K-band photometry of the secondary eclipse of HD 209458. *MNRAS*, 363, 211–215 {20}
Snellen IAG, Albrecht S, de Mooij EJW, et al., 2008, Ground-based detection of sodium in the transmission spectrum of exoplanet HD 209458 b. *A&A*, 487, 357–362 {20}
Snellen IAG, Brandl BR, de Kok RJ, et al., 2014, Fast spin of the young extrasolar planet β Pic b. *Nature*, 509, 63–65 {52}

Published by Cambridge University Press, ISBN 9781108419772

Snellen IAG, Brown AGA, 2018, The mass of the young planet β Pic b through the astrometric motion of its host star. *Nature Astronomy*, 2, 883–886 {52}
Snellen IAG, Covino E, 2007, K-band transit and secondary eclipse photometry of exoplanet OGLE–TR–113 b. *MNRAS*, 375, 307–312 {39}
Snellen IAG, de Kok RJ, de Mooij EJW, et al., 2010a, The orbital motion, absolute mass and high-altitude winds of exoplanet HD 209458 b. *Nature*, 465, 1049–1051 {20}
Snellen IAG, de Mooij EJW, Albrecht S, 2009a, The changing phases of extrasolar planet CoRoT–1 b. *Nature*, 459, 543–545 {21}
Snellen IAG, de Mooij EJW, Burrows A, 2010b, Bright optical day-side emission from extrasolar planet CoRoT–2 b. *A&A*, 513, A76 {21}
Snellen IAG, Désert JM, Waters LBFM, et al., 2017, Detecting the Proxima Cen b atmosphere with JWST targeting CO_2 at 15 μm using a high-pass spectral filtering technique. *AJ*, 154, 77 {2}
Snellen IAG, Koppenhoefer J, van der Burg RFJ, et al., 2009b, OGLE2–TR–L9 b: an exoplanet transiting a rapidly rotating F3 star. *A&A*, 497, 545–550 {39}
Snellgrove MD, Papaloizou JCB, Nelson RP, 2001, On disk driven inward migration of resonantly coupled planets with application to the system around GJ 876. *A&A*, 374, 1092–1099 {5}
Söderhjelm S, Robichon N, Arenou F, 1999, HD 209458. *IAU Circ.*, 7323, 3–4 {19}
Sokov EN, Sokova IA, Dyachenko VV, et al., 2018, Transit timing analysis of the exoplanet TrES–5 b: possible existence of the exoplanet TrES–5 c. *MNRAS*, 480, 291–301 {41}
Sokov EN, Vereshchagina IA, Gnedin YN, et al., 2012, Observations of extrasolar planet transits with the automated telescopes of the Pulkovo Astronomical Observatory. *Astronomy Letters*, 38, 180–190 {24, 43}
Song I, Schneider G, Zuckerman B, et al., 2006, HST–NICMOS imaging of the planetary-mass companion to the young brown dwarf 2M J1207. *ApJ*, 652, 724–729 {54}
Soriano M, Vauclair S, 2008, The exoplanet-host star μ Ara: a new seismic analysis. *Journal of Physics Conference Series*, 118(1), 012072–75 {1}
—, 2010, New seismic analysis of the exoplanet-host star μ Ara. *A&A*, 513, A49, 1–8 {1}
Soriano M, Vauclair S, Vauclair G, et al., 2007, The CoRoT primary target HD 52265: models and seismic tests. *A&A*, 471, 885–892 {8}
Soto MG, Díaz MR, Jenkins JS, et al., 2018, K2–237 b and K2–238 b: discovery and characterisation of two new transiting hot Jupiters from K2. *MNRAS*, 478, 5356–5365 {38}
Soummer R, Brendan Hagan J, Pueyo L, et al., 2011, Orbital motion of HR 8799 b, c, d using HST data from 1998: constraints on inclination, eccentricity, stability. *ApJ*, 741, 55 {53}
Southworth J, 2008, Homogeneous studies of transiting extrasolar planets. I. Light-curve analyses. *MNRAS*, 386, 1644–1666 {16, 17, 18, 20, 23, 39, 40, 41, 47}
—, 2009, Homogeneous studies of transiting extrasolar planets. II. Physical properties. *MNRAS*, 394, 272–294 {16, 18, 20, 23, 39, 40, 41, 47}
—, 2010, Homogeneous studies of transiting extrasolar planets. III. Additional planets and stellar models. *MNRAS*, 408, 1689–1713 {16, 18, 20, 23, 39, 40, 41, 42, 43, 47, 48}
—, 2011, Homogeneous studies of transiting extrasolar planets. IV. Thirty systems with space-based light curves. *MNRAS*, 417, 2166–2196 {17, 21, 22, 24, 27, 29, 40, 41, 42, 48}
—, 2012, Homogeneous studies of transiting extrasolar planets. V. New results for 38 planets. *MNRAS*, 426, 1291–1323 {21, 22, 24, 25, 27, 28, 29, 30, 39, 41, 42, 43, 44, 48}
Southworth J, Bruni I, Mancini L, et al., 2012a, Refined physical properties of the HAT–P–13 planetary system. *MNRAS*, 420, 2580–2587 {25}
Southworth J, Dominik M, Jørgensen UG, et al., 2011, A much lower density for the transiting exoplanet WASP–7. *A&A*, 527, A8 {42}
Southworth J, Evans DF, 2016, Contamination from a nearby star cannot explain the anomalous transmission spectrum of the ultrashort period giant planet WASP–103 b. *MNRAS*, 463, 37–44 {47}
Southworth J, Hinse TC, Burgdorf M, et al., 2014, High-precision photometry by telescope defocusing. VI. WASP–24, WASP–25 and WASP–26. *MNRAS*, 444, 776–789 {44}
Southworth J, Hinse TC, Burgdorf MJ, et al., 2009a, High-precision photometry by telescope defocusing. II. The transiting planetary system WASP–4. *MNRAS*, 399, 287–294 {42}
Southworth J, Hinse TC, Dominik M, et al., 2009b, Physical properties of the 0.94-d period transiting planetary system WASP–18. *ApJ*, 707, 167–172 {43}
—, 2012b, High-precision photometry by telescope defocusing. IV. Confirmation of the huge radius of WASP–17 b. *MNRAS*, 426, 1338–1348 {43}
Southworth J, Hinse TC, Jørgensen UG, et al., 2009c, High-precision photometry by telescope defocusing. I. The transiting planetary system WASP–5. *MNRAS*, 396, 1023–1031 {42}
Southworth J, Mancini L, Browne P, et al., 2013, High-precision photometry by telescope defocusing. V. WASP–15 and WASP–16. *MNRAS*, 434, 1300–1308 {43}
Southworth J, Mancini L, Ciceri S, et al., 2015a, High-precision photometry by telescope defocusing. VII. The ultrashort period planet WASP–103. *MNRAS*, 447, 711–721 {47}
Southworth J, Mancini L, Madhusudhan N, et al., 2017, Detection of the atmosphere of the 1.6$M_\oplus$ exoplanet GJ 1132 b. *AJ*, 153, 191 {23}
Southworth J, Mancini L, Maxted PFL, et al., 2012c, Physical properties and radius variations in the HAT–P–5 planetary system from simultaneous four-colour photometry. *MNRAS*, 422, 3099–3106 {24}
Southworth J, Mancini L, Novati SC, et al., 2010, High-precision photometry by telescope defocusing. III. The transiting planetary system WASP–2. *MNRAS*, 408, 1680–1688 {41}
Southworth J, Mancini L, Tregloan-Reed J, et al., 2015b, Larger and faster: revised properties and a shorter orbital period for the WASP–57 planetary system from a pro-am collaboration. *MNRAS*, 454, 3094–3107 {46}
Southworth J, Tregloan-Reed J, Andersen MI, et al., 2016, High-precision photometry by telescope defocussing. VIII. WASP–22, WASP–41, WASP–42 and WASP–55. *MNRAS*, 457, 4205–4217 {44, 45, 46}
Southworth J, Tregloan-Reed J, Pinhas A, et al., 2018, Physical properties and optical-infrared transmission spectrum of the giant planet XO–1 b. *MNRAS*, 481, 4261–4276 {48}
Souto D, Cunha K, García-Hernández DA, et al., 2017, Chemical abundances of M dwarfs from the APOGEE survey. I. The exoplanet hosting stars Kepler–138 and Kepler–186. *ApJ*, 835, 239 {32, 33}
Souto D, Unterborn CT, Smith VV, et al., 2018, Stellar and planetary characterisation of the Ross 128 exoplanetary system from APOGEE spectra. *ApJ*, 860, L15 {4}
Sowicka P, Handler G, Dębski B, et al., 2017, Search for exoplanets around pulsating stars of A-F type in Kepler short-cadence data and the case of KIC 8197761. *MNRAS*, 467, 4663–4673 {35}
Sozzetti A, Bonomo AS, Biazzo K, et al., 2015, The GAPS programme with HARPS–N at TNG. VI. The curious case of TrES–4 b. *A&A*, 575, L15 {41}
Sozzetti A, Desidera S, 2010, Hipparcos preliminary astrometric masses for the two close-in companions to HD 131664 and HD 43848. A brown dwarf and a low-mass star. *A&A*, 509, A103–114 {10}
Sozzetti A, Torres G, Charbonneau D, et al., 2007, Improving stellar and planetary parameters of transiting planet systems: TrES–2. *ApJ*, 664, 1190–1198 {40}
—, 2009, A new spectroscopic and photometric analysis of the transiting planet systems TrES–3 and TrES–4. *ApJ*, 691, 1145–1158 {41}
Sozzetti A, Udry S, Zucker S, et al., 2006a, A massive planet to the young disk star HD 81040. *A&A*, 449, 417–424 {9}
Sozzetti A, Yong D, Carney BW, et al., 2006b, Chemical composition of the planet-harbouring star TrES–1. *AJ*, 131, 2274–2289 {40}
Sozzetti A, Yong D, Torres G, et al., 2004, High-resolution spectroscopy of the transiting planet host star TrES–1. *ApJ*, 616, L167–L170 {40}
Spake JJ, Brown DJA, Doyle AP, et al., 2016, WASP–135 b: a highly irradiated, inflated hot Jupiter orbiting a G5V star. *PASP*, 128(2), 024401 {47}
Spake JJ, Sing DK, Evans TM, et al., 2018, Helium in the eroding atmosphere of an exoplanet. *Nature*, 557, 68–70 {47}
Spiegel DS, Burrows A, 2010, Atmosphere and spectral models of the Kepler-field planets HAT–P–7 b and TrES–2. *ApJ*, 722, 871–879 {24, 40}
Staab D, Haswell CA, Smith GD, et al., 2017, SALT observations of the chromospheric activity of transiting planet hosts: mass-loss and star-planet interactions. *MNRAS*, 466, 738–748 {25, 45, 46, 47}
Stapelfeldt KR, Holmes EK, Chen C, et al., 2004, First look at the Fomalhaut debris disk with the Spitzer space telescope. *ApJS*, 154, 458–462 {51}
Stark CC, Kuchner MJ, 2009, A new algorithm for self-consistent 3d modeling of collisions in dusty debris disks. *ApJ*, 707, 543–553 {51}
Steele IA, Copperwheat CM, Jermak HE, et al., 2018, Optical polarimetry of KIC–8462852 in 2017 May-August. *MNRAS*, 473, L26–L30 {36}
Stefansson G, Li Y, Mahadevan S, et al., 2018, Diffuser-assisted photometric follow-up observations of the Neptune-sized planets K2–28 b and K2–100 b. *AJ*, 156, 266 {37, 38}
Stefansson G, Mahadevan S, Hebb L, et al., 2017, Toward space-like photometric precision from the ground with beam-shaping diffusers. *ApJ*, 848, 9 {16, 41, 46}
Steffen JH, Agol E, 2005, An analysis of the transit times of TrES–1 b. *MNRAS*, 364, L96–L100 {40}
Steffen JH, Batalha NM, Borucki WJ, et al., 2010, Five Kepler target stars that show multiple transiting exoplanet candidates. *ApJ*, 725, 1226–1241 {28, 31, 33, 35}
Steffen JH, Fabrycky DC, Agol E, et al., 2013, Transit timing observations from Kepler. VII. Confirmation of 27 planets in 13 multi-planet systems via transit timing variations and orbital stability. *MNRAS*, 428, 1077–1087 {30}
Steffen JH, Fabrycky DC, Ford EB, et al., 2012, Transit timing observations from Kepler. III. Confirmation of four multiple planet systems by a Fourier-domain study of anticorrelated transit timing variations. *MNRAS*, 421, 2342–2354 {29}
Steffen JH, Farr WM, 2013, A lack of short-period multi-planet systems with close-proximity pairs and the curious case of Kepler–42. *ApJ*, 774, L12 {30}
Steffen JH, Li G, 2016, Dynamical considerations for life in multi-habitable planetary systems. *ApJ*, 816, 97 {29}
Stelzer B, Scholz A, Jayawardhana R, 2007, Emission line variability of the accreting young brown dwarf 2M J1207: from hours to years. *ApJ*, 671, 842–852 {54}
Stempels HC, Collier Cameron A, Hebb L, et al., 2007, WASP–1: a lithium- and metal-rich star with an oversized planet. *MNRAS*, 379, 773–778 {41}
Stepinski TF, Malhotra R, Black DC, 2000, The υ And system: models and stability. *ApJ*, 545, 1044–1057 {1}
Stevens DJ, Collins KA, Gaudi BS, et al., 2017, KELT–12 b: a 5-day, highly inflated hot Jupiter transiting a mildly evolved hot star. *AJ*, 153, 178 {27}
Stevenson KB, Bean JL, Fabrycky D, et al., 2014a, An HST search for a sub-Earth-sized exoplanet in the GJ 436 system. *ApJ*, 796, 32 {17}
Stevenson KB, Bean JL, Madhusudhan N, et al., 2014b, Deciphering the atmospheric composition of WASP–12 b: a comprehensive analysis of its day-side emission. *ApJ*, 791, 36 {43}
Stevenson KB, Bean JL, Seifahrt A, et al., 2014c, Transmission spectroscopy of the hot-Jupiter WASP–12 b from 0.7 – 5 μm. *AJ*, 147, 161 {43}
—, 2016a, A search for water in the atmosphere of HAT–P–26 b using LDSS–3C. *ApJ*, 817, 141 {25}
Stevenson KB, Désert JM, Line MR, et al., 2014d, Thermal structure of an exoplanet atmosphere from phase-resolved emission spectroscopy. *Science*, 346, 838–841 {42, 45}
Stevenson KB, Harrington J, Fortney JJ, et al., 2012a, Transit and eclipse analyses of the exoplanet HD 149026 b using BLISS mapping. *ApJ*, 754, 136 {18}
Stevenson KB, Harrington J, Lust NB, et al., 2012b, Two nearby sub-Earth-sized exoplanet candidates in the GJ 436 system. *ApJ*, 755, 9 {17}
Stevenson KB, Harrington J, Nymeyer S, et al., 2010, Possible thermochemical disequilibrium in the atmosphere of the exoplanet GJ 436 b. *Nature*, 464, 1161–1164 {16}
Stevenson KB, Lewis NK, Bean JL, et al., 2016b, Transiting exoplanet studies and com-

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munity targets for JWST's early release science programme. *PASP*, 128(9), 094401 {46}

Stevenson KB, Line MR, Bean JL, et al., 2017, Spitzer phase curve constraints for WASP–43 b at 3.6 and 4.5 μm. *AJ*, 153, 68 {45}

Stolker T, Dominik C, Min M, et al., 2016, Scattered light mapping of protoplanetary disks. *A&A*, 596, A70 {53}

Stone JM, Skemer AJ, Kratter KM, et al., 2016, Adaptive optics imaging of VHS 1256–1257: a low-mass companion to a brown dwarf binary system. *ApJ*, 818, L12 {54}

Strachan JBP, Anglada-Escudé G, 2017, A differential least-squares deconvolution method for high precision spectroscopy of stars and exoplanets. I. Application to obliquity measurements of HARPS observations of HD 189733 b. *MNRAS*, 472, 3467–3473 {19}

Street RA, Choi JY, Tsapras Y, et al., 2013, MOA–2010–BLG–73L: an M dwarf with a substellar companion at the planet/brown dwarf boundary. *ApJ*, 763, 67 {49}

Street RA, Simpson E, Barros SCC, et al., 2010, WASP–24 b: a new transiting close-in hot Jupiter orbiting a late F-star. *ApJ*, 720, 337–343 {44}

Street RA, Udalski A, Calchi Novati S, et al., 2016, Spitzer parallax of OGLE–2015–BLG–966: a cold Neptune in the Galactic disk. *ApJ*, 819, 93 {50}

Stroe A, Snellen IAG, Röttgering HJA, 2012, A stringent upper limit to 1 cm radio emission from the extrasolar planet system τ Boo. *A&A*, 546, A116 {2}

Stuik R, Bailey JI, Dorval P, et al., 2017, bRing: an observatory dedicated to monitoring the β Pic b Hill sphere transit. *A&A*, 607, A45 {52}

Su KYL, De Buizer JM, Rieke GH, et al., 2017a, The inner 25 au debris distribution in the ϵ Eri system. *AJ*, 153, 226 {3}

Su KYL, MacGregor MA, Booth M, et al., 2017b, ALMA 1.3-mm map of the HD 95086 system. *AJ*, 154, 225 {52}

Su KYL, Morrison S, Malhotra R, et al., 2015, Debris distribution in HD 95086: a young analogue of HR 8799. *ApJ*, 799, 146 {52}

Su KYL, Rieke GH, Defrére D, et al., 2016, The inner debris structure in the Fomalhaut planetary system. *ApJ*, 818, 45 {51}

Su KYL, Rieke GH, Malhotra R, et al., 2013, Asteroid belts in debris disk twins: Vega and Fomalhaut. *ApJ*, 763, 118 {51}

Su KYL, Rieke GH, Stapelfeldt KR, et al., 2009, The debris disk around HR 8799. *ApJ*, 705, 314–327 {53}

Suárez Mascareño A, González Hernández JI, Rebolo R, et al., 2017a, A super-Earth orbiting the nearby M dwarf GJ 536. *A&A*, 597, A108 {5}

—, 2017b, HADES radial velocity programme with HARPS–N at TNG. V. A super-Earth on the inner edge of the habitable zone of the nearby M dwarf GJ 625. *A&A*, 605, A92 {5}

—, 2018, The RoPES project with HARPS and HARPS–N. I. A system of super-Earths orbiting the moderately active K-dwarf HD 176986. *A&A*, 612, A41 {12}

Sucerquia M, Alvarado-Montes JA, Ramírez V, et al., 2017, Anomalous light curves of young tilted exorings. *MNRAS*, 472, L120–L124 {36, 41}

Sudol JJ, Haghighipour N, 2012, High-mass, four-planet configurations for HR 8799: constraining the orbital inclination and age of the system. *ApJ*, 755, 38 {53}

Sumi T, Bennett DP, Bond IA, et al., 2010, A cold Neptune-mass planet OGLE–2007–BLG–368L b: cold Neptunes are common. *ApJ*, 710, 1641–1653 {50}

Sumi T, Udalski A, Bennett DP, et al., 2016, The first Neptune analogue or super-Earth with a Neptune-like orbit: MOA–2013–BLG–605L b. *ApJ*, 825, 112 {49}

Sun L, Gu S, Wang X, et al., 2017a, Refined system parameters and TTV study of transiting exoplanetary system HAT–P–20. *AJ*, 153, 28 {25}

Sun LL, Gu SH, Wang XB, et al., 2015, Long-term transit timing monitoring and homogenous study of WASP–32. *Res. Astron. Astrophys.*, 15, 117-126 {44}

Sun Z, Ji J, Wang S, et al., 2017b, Terrestrial planet formation under migration: systems near the 4:2:1 mean motion resonance. *MNRAS*, 467, 619–632 {33}

Sun Z, Ji Jh, Dong Y, 2018, Photometric follow-up transit (primary eclipse) observations of WASP–43 b and TrES–3 b and a study on their transit timing variations. *Chin. Astron. Astrophys.*, 42, 101–128 {41, 45}

Suzuki D, Bennett DP, Udalski A, et al., 2018, A likely detection of a two-planet system in a low-magnification microlensing event. *AJ*, 155, 263 {50}

Suzuki D, Udalski A, Sumi T, et al., 2014, MOA–2008–BLG–379L b: a massive planet from a high-magnification event with a faint source. *ApJ*, 780, 123 {49}

Swain MR, Bouwman J, Akeson RL, et al., 2008a, The mid-infrared spectrum of the transiting exoplanet HD 209458 b. *ApJ*, 674, 482–497 {20}

Swain MR, Deroo P, Griffith CA, et al., 2010, A ground-based near-infrared emission spectrum of the exoplanet HD 189733 b. *Nature*, 463, 637–639 {18}

Swain MR, Deroo P, Tinetti G, et al., 2013, Probing the extreme planetary atmosphere of WASP–12 b. *Icarus*, 225, 432–445 {43}

Swain MR, Line MR, Deroo P, 2014, On the detection of molecules in the atmosphere of HD 189733 b using HST–NICMOS transmission spectroscopy. *ApJ*, 784, 133 {19}

Swain MR, Tinetti G, Vasisht G, et al., 2009a, Water, methane, and carbon dioxide present in the day-side spectrum of the exoplanet HD 209458 b. *ApJ*, 704, 1616–1621 {20}

Swain MR, Vasisht G, Tinetti G, 2008b, The presence of methane in the atmosphere of an extrasolar planet. *Nature*, 452, 329–331 {18}

Swain MR, Vasisht G, Tinetti G, et al., 2009b, Molecular signatures in the near-infrared day-side spectrum of HD 189733 b. *ApJ*, 690, L114–L117 {18}

Swift JJ, Bottom M, Johnson JA, et al., 2015, Miniature Exoplanet Radial Velocity Array (MINERVA). I. Design, commissioning, and first science results. *Journal of Astronomical Telescopes, Instruments, and Systems*, 1(2), 027002 {46}

Swift JJ, Johnson JA, Morton TD, et al., 2013, Characterising the cool KOIs. IV. Kepler–32 as a prototype for the formation of compact planetary systems throughout the Galaxy. *ApJ*, 764, 105 {29}

Szabó GM, Kiss LL, Benkő JM, et al., 2010, A multi-site campaign to detect the transit of the second planet in HAT–P–13. *A&A*, 523, A84 {25}

Szabó GM, Pál A, Derekas A, et al., 2012, Spin–orbit resonance, transit duration variation and possible secular perturbations in KOI–13. *MNRAS*, 421, L122–L126 {28}

Szabó GM, Simon A, Kiss LL, 2014, Mapping a star with transits: orbit precession effects in the Kepler–13 system. *MNRAS*, 437, 1045–1050 {28}

Szabó GM, Szabó R, Benkő JM, et al., 2011, Asymmetric transit curves as indication of orbital obliquity: clues from the late-type dwarf companion in KOI–13. *ApJ*, 736, L4 {28}

Szabó R, Szabó GM, Dálya G, et al., 2013, Multiple planets or exomoons in Kepler hot Jupiter systems with transit timing variations? *A&A*, 553, A17 {35}

Tadeu dos Santos M, Correa-Otto JA, Michtchenko TA, et al., 2015, Formation and evolution of the two 4:3 resonant giants planets in HD 200964. *A&A*, 573, A94 {12}

Tadeu dos Santos M, Silva GG, Ferraz-Mello S, et al., 2012, A new analysis of the GJ 581 extrasolar planetary system. *Cel. Mech. Dyn. Astron.*, 113, 49–62 {5}

Takarada T, Sato B, Omiya M, et al., 2018, Planets around the evolved stars 24 Boo and γ Lib: a 30 d-period planet and a double giant-planet system in possible 7:3 MMR. *PASJ*, 70, 59 {2, 3}

Talens GJJ, Albrecht S, Spronck JFP, et al., 2017, MASCARA–1 b: a hot Jupiter transiting a bright $V = 8.3$ A-star in a misaligned orbit. *A&A*, 606, A73 {39}

Talens GJJ, Justesen AB, Albrecht S, et al., 2018, MASCARA–2 b: a hot Jupiter transiting the $V = 7.6$ A-star HD 185603. *A&A*, 612, A57 {27}

Tamayo D, 2014, Consequences of an eccentric orbit for Fomalhaut b. *MNRAS*, 438, 3577–3586 {51}

Tamayo D, Rein H, Petrovich C, et al., 2017, Convergent migration renders TRAPPIST–1 long-lived. *ApJ*, 840, L19 {40}

Tamburo P, Mandell A, Deming D, et al., 2018, Confirming variability in the secondary eclipse depth of the super-Earth 55 Cnc e. *AJ*, 155, 221 {16}

Tamuz O, Ségransan D, Udry S, et al., 2008, The CORALIE survey for southern extrasolar planets. XV. Discovery of two eccentric planets orbiting HD 4113 and HD 156846. *A&A*, 480, L33–L36 {6, 11}

Tan HB, Wang XB, Gu SH, et al., 2014, Photometric observation and study of the transiting exoplanetary system HAT–P–8. *Chin. Astron. Astrophys.*, 38, 307–316 {24}

Tan X, Payne MJ, Lee MH, et al., 2013, Characterising the orbital and dynamical state of the HD 82943 planetary system with Keck radial velocity data. *ApJ*, 777, 101 {9}

Tanikawa A, Suzuki TK, Doi Y, 2018, Metal pollution of low-mass Population III stars through accretion of interstellar objects like Oumuamua. *PASJ*, 70, 80 {55}

Tanner A, Boyajian TS, von Braun K, et al., 2015, Stellar parameters for HD 69830, a nearby star with three Neptune mass planets and an asteroid belt. *ApJ*, 800, 115 {9}

Tatulli E, Benisty M, Ménard F, et al., 2011, Constraining the structure of the planet-forming region in the disk of the Herbig Be star HD 100546. *A&A*, 531, A1 {52}

Teachey A, Kipping DM, Schmitt AR, 2018, The Hunt for Exomoons with Kepler (HEK). VI. On the dearth of Galilean analogues in Kepler, and the exomoon candidate Kepler–1625 b I. *AJ*, 155, 36 {36}

Teague R, Bae J, Bergin EA, et al., 2018, A kinematical detection of two embedded Jupiter-mass planets in HD 163296. *ApJ*, 860, L12 {11}

Temple LY, Hellier C, Albrow MD, et al., 2017, WASP–167 b/KELT–13 b: joint discovery of a hot Jupiter transiting a rapidly rotating F1V star. *MNRAS*, 471, 2743–2752 {47}

Temple LY, Hellier C, Almleaky Y, et al., 2018, Discovery of WASP–174 b: Doppler tomography of a near-grazing transit. *MNRAS*, 480, 5307–5313 {47}

Terquem C, 2014, On the formation of the Kepler–10 planetary system. *MNRAS*, 444, 1738–1746 {27}

Teske JK, Cunha K, Schuler SC, et al., 2013a, Carbon and oxygen abundances in cool metal-rich exoplanet hosts: a case study of the C/O ratio of 55 Cnc. *ApJ*, 778, 132 {16}

Teske JK, Ghezzi L, Cunha K, et al., 2015, Abundance differences between exoplanet binary host stars XO–2N and XO–2S: dependence on stellar parameters. *ApJ*, 801, L10 {48}

Teske JK, Khanal S, Ramírez I, 2016a, The curious case of elemental abundance differences in the dual hot Jupiter hosts WASP–94A and B. *ApJ*, 819, 19 {46}

Teske JK, Schuler SC, Cunha K, et al., 2013b, Carbon and oxygen abundances in the hot Jupiter exoplanet host star XO–2B and its binary companion. *ApJ*, 768, L12 {48}

Teske JK, Shectman SA, Vogt SS, et al., 2016b, The Magellan PFS Planet Search Program: radial velocity and stellar abundance analyses of the 360 au, metal-poor binary twins HD 133131A/B. *AJ*, 152, 167 {10}

Teske JK, Turner JD, Mueller M, et al., 2013c, Optical observations of the transiting exoplanet GJ 1214 b. *MNRAS*, 431, 1669–1677 {23}

Teske JK, Wang S, Wolfgang A, et al., 2018, Magellan–PFS radial velocities of GJ 9827, a late K dwarf at 30 pc with three transiting super-Earths. *AJ*, 155, 148 {38}

Teyssandier J, Owen JE, Adams FC, et al., 2015, Torque on an exoplanet from an anisotropic evaporative wind. *MNRAS*, 452, 1743–1753 {29}

Thakur P, Mannaday VK, Jiang IG, et al., 2018, Investigating extrasolar planetary system Qatar–1 through transit observations. *Bulletin de la Societe Royale des Sciences de Liege*, 87, 132–136 {39}

Thalmann C, Grady CA, Goto M, et al., 2010, Imaging of a transition disk gap in reflected light: indications of planet formation around the young solar analogue LkCa 15. *ApJ*, 718, L87–L91 {54}

Thalmann C, Janson M, Garufi A, et al., 2016, Resolving the planet-hosting inner regions of the LkCa 15 disk. *ApJ*, 828, L17 {54}

Thalmann C, Mulders GD, Hodapp K, et al., 2014, The architecture of the LkCa 15 transition disk revealed by high-contrast imaging. *A&A*, 566, A51 {54}

Thalmann C, Mulders GD, Janson M, et al., 2015, Optical imaging polarimetry of the LkCa 15 protoplanetary disk with VLT–SPHERE ZIMPOL. *ApJ*, 808, L41 {54}

Thébault P, 2011, Against all odds? Forming the planet of the HD 196885 binary. *Cel. Mech. Dyn. Astron.*, 111, 29–49 {12}

Thébault P, Marzari F, Scholl H, 2008, Planet formation in α Cen a revisited: not so accretion friendly after all. *MNRAS*, 388, 1528–1536 {2}

—, 2009, Planet formation in the habitable zone of α Cen B. *MNRAS*, 393, L21–L25 {2}

Thébault P, Marzari F, Scholl H, et al., 2004, Planetary formation in the γ Cep system. *A&A*, 427, 1097–1104 {2}

Thévenin F, Provost J, Morel P, et al., 2002, Asteroseismology and calibration of the

Published by Cambridge University Press, ISBN 9781108419772

α Cen binary system. *A&A*, 392, L9–L12 {2}
Thompson MA, Scicluna P, Kemper F, et al., 2016, Constraints on the circumstellar dust around KIC–8462852. *MNRAS*, 458, L39–L43 {36}
Thoul A, Scuflaire R, Noels A, et al., 2003, A new seismic analysis of α Cen. *A&A*, 402, 293–297 {2}
Tian F, Toon OB, Pavlov AA, et al., 2005, Transonic hydrodynamic escape of hydrogen from extrasolar planetary atmospheres. *ApJ*, 621, 1049–1060 {20}
Tinetti G, Deroo P, Swain MR, et al., 2010, Probing the terminator region atmosphere of the hot Jupiter XO–1 b with transmission spectroscopy. *ApJ*, 712, L139–L142 {47}
Tinetti G, Vidal-Madjar A, Liang MC, et al., 2007, Water vapour in the atmosphere of a transiting extrasolar planet. *Nature*, 448, 169–171 {18}
Tingay SJ, Kaplan DL, Lenc E, et al., 2018, A serendipitous MWA search for narrowband signals from Oumuamua. *ApJ*, 857, 11 {55}
Tingley B, Endl M, Gazzano JC, et al., 2011, Transiting exoplanets from the CoRoT space mission. XVI. CoRoT–14 b: an unusually dense very hot Jupiter. *A&A*, 528, A97 {22}
Tingley B, Parviainen H, Gandolfi D, et al., 2014, Confirmation of an exoplanet using the transit colour signature: Kepler–418 b, a blended giant planet in a multi-planet system. *A&A*, 567, A14 {34}
Tingley B, Thurl C, Sackett P, 2006, The colour signature of the transit of HD 209458: discrepancies between stellar atmospheric models and observations. *A&A*, 445, L27–L30 {20}
Tinney CG, Butler RP, Jones HRA, et al., 2011a, The Anglo–Australian planet search. XX. A solitary ice-giant planet orbiting HD 102365. *ApJ*, 727, 103 {10}
Tinney CG, Butler RP, Marcy GW, et al., 2001, First results from the Anglo–Australian planet search: a brown dwarf candidate and a 51 Peg-like planet. *ApJ*, 551, 507–511 {12}
—, 2002, Two extrasolar planets from the Anglo–Australian planet search. *ApJ*, 571, 528–531 {6, 7}
—, 2003, Four new planets orbiting metal-enriched stars. *ApJ*, 587, 423–428 {6, 7, 9}
—, 2005, Three low-mass planets from the Anglo–Australian planet search. *ApJ*, 623, 1171–1179 {10, 13}
—, 2006, The 2:1 resonant exoplanetary system orbiting HD 73526. *ApJ*, 647, 594–599 {9}
Tinney CG, Wittenmyer RA, Butler RP, et al., 2011b, The Anglo–Australian planet search. XXI. A gas-giant planet in a one year orbit and the habitability of gas-giant satellites. *ApJ*, 732, 31 {8}
Todorov KO, Deming D, Burrows A, et al., 2014, Updated Spitzer emission spectroscopy of bright transiting hot Jupiter HD 189733 b. *ApJ*, 796, 100 {19}
Todorov KO, Deming D, Harrington J, et al., 2010a, Spitzer–IRAC secondary eclipse photometry of the transiting extrasolar planet HAT–P–1 b. *ApJ*, 708, 498–504 {23}
Todorov KO, Deming D, Knutson HA, et al., 2012, Warm Spitzer observations of three hot exoplanets: XO–4 b, HAT–P–6 b, and HAT–P–8 b. *ApJ*, 746, 111 {24, 48}
—, 2013, Warm Spitzer photometry of three hot Jupiters: HAT–P–3 b, HAT–P–4 b and HAT–P–12 b. *ApJ*, 770, 102 {24}
Todorov KO, Line MR, Pineda JE, et al., 2016, The water abundance of the directly imaged substellar companion κ And b retrieved from a near infrared spectrum. *ApJ*, 823, 14 {51}
Todorov KO, Luhman KL, McLeod KK, 2010b, Discovery of a planetary-mass companion to a brown dwarf in Taurus. *ApJ*, 714, L84–L88 {54}
Torres G, 2007a, The planet host star γ Cep: physical properties, the binary orbit, and the mass of the substellar companion. *ApJ*, 654, 1095–1109 {2}
—, 2007b, The transiting exoplanet host star GJ 436: a test of stellar evolution models in the lower main sequence, and revised planetary parameters. *ApJ*, 671, L65–L68 {16}
Torres G, Bakos GÁ, Hartman J, et al., 2010, HAT–P–14 b: a 2.2 Jupiter-mass exoplanet transiting a bright F star. *ApJ*, 715, 458–467 {25}
Torres G, Bakos GÁ, Kovács G, et al., 2007, HAT–P–3 b: a heavy-element-rich planet transiting a K dwarf star. *ApJ*, 666, L121–L124 {24}
Torres G, Fressin F, Batalha NM, et al., 2011, Modeling Kepler transit light curves as false positives: rejection of blend scenarios for Kepler–9, and validation of Kepler–9 d, a super-Earth-size planet in a multiple system. *ApJ*, 727, 24 {27}
Torres G, Kane SR, Rowe JF, et al., 2017, Validation of small Kepler transiting planet candidates in or near the habitable zone. *AJ*, 154, 264 {36}
Torres G, Kipping DM, Fressin F, et al., 2015, Validation of 12 small Kepler transiting planets in the habitable zone. *ApJ*, 800, 99 {33, 34, 35}
Torres G, Konacki M, Sasselov DD, et al., 2004, New data and improved parameters for the extrasolar transiting planet OGLE–TR–56 b. *ApJ*, 609, 1071–1075 {39}
—, 2005, Testing blend scenarios for extrasolar transiting planet candidates. II. OGLE–TR–56. *ApJ*, 619, 558–569 {39}
Tóth Z, Nagy I, 2014, Dynamical stability of the GJ 581 exoplanetary system. *MNRAS*, 442, 454–461 {5}
Trammell GB, Li ZY, Arras P, 2014, Magnetohydrodynamic simulations of hot Jupiter upper atmospheres. *ApJ*, 788, 161 {19}
Tregloan-Reed J, Southworth J, 2013, An extremely high photometric precision in ground-based observations of two transits in the WASP–50 planetary system. *MNRAS*, 431, 966–971 {45}
Tregloan-Reed J, Southworth J, Burgdorf M, et al., 2015, Transits and star spots in the WASP–6 planetary system. *MNRAS*, 450, 1760–1769 {42}
Tregloan-Reed J, Southworth J, Mancini L, et al., 2018, Possible detection of a bimodal cloud distribution in the atmosphere of HAT–P–32 A b from multiband photometry. *MNRAS*, 474, 5485–5499 {25}
Tregloan-Reed J, Southworth J, Tappert C, 2013, Transits and star spots in the WASP–19 planetary system. *MNRAS*, 428, 3671–3679 {44}
Tremblin P, Chabrier G, Mayne NJ, et al., 2017, Advection of potential temperature in the atmosphere of irradiated exoplanets: a robust mechanism to explain radius inflation. *ApJ*, 841, 30 {21}
Triaud AHMJ, 2014, Colour-magnitude diagrams of transiting exoplanets. I. Systems with parallaxes. *MNRAS*, 439, L61–L64 {17, 19, 20}
Triaud AHMJ, Anderson DR, Collier Cameron A, et al., 2013a, WASP–80 b: a gas giant transiting a cool dwarf. *A&A*, 551, A80 {46}
Triaud AHMJ, Collier Cameron A, Queloz D, et al., 2010, Spin–orbit angle measurements for six southern transiting planets: new insights into the dynamical origins of hot Jupiters. *A&A*, 524, A25 {41, 42, 43}
Triaud AHMJ, Gillon M, Ehrenreich D, et al., 2015, WASP–80 b has a day-side within the T-dwarf range. *MNRAS*, 450, 2279–2290 {46}
Triaud AHMJ, Hebb L, Anderson DR, et al., 2013b, The EBLM project. I. Physical and orbital parameters, including spin–orbit angles, of two low-mass eclipsing binaries on opposite sides of the brown dwarf limit. *A&A*, 549, A18 {44}
Triaud AHMJ, Neveu-VanMalle M, Lendl M, et al., 2017, Peculiar architectures for the WASP–53 and WASP–81 planet-hosting systems. *MNRAS*, 467, 1714–1733 {46}
Triaud AHMJ, Queloz D, Bouchy F, et al., 2009, The Rossiter–McLaughlin effect of CoRoT–3 b and HD 189733 b. *A&A*, 506, 377–384 {18, 22}
Triaud AHMJ, Queloz D, Hellier C, et al., 2011, WASP–23 b: a transiting hot Jupiter around a K dwarf and its Rossiter–McLaughlin effect. *A&A*, 531, A24 {44}
Trifonov T, Kürster M, Zechmeister M, et al., 2017, Three planets around HD 27894: a close-in pair with a 2:1 period ratio and an eccentric Jovian planet at 5.4 au. *A&A*, 602, L8 {7}
—, 2018a, The CARMENES search for exoplanets around M dwarfs: first visual-channel radial-velocity measurements and orbital parameter updates of seven M-dwarf planetary systems. *A&A*, 609, A117 {4, 5, 6, 13, 17}
Trifonov T, Lee MH, Reffert S, et al., 2018b, Dynamical analysis of the circumprimary planet in the eccentric binary system HD 59686. *AJ*, 155, 174 {8}
Trilling DE, 2000, Tidal constraints on the masses of extrasolar planets. *ApJ*, 537, L61–L64 {1, 3, 9, 12, 13}
Trilling DE, Brown RH, 1998, A circumstellar dust disk around a star with a known planetary companion. *Nature*, 395, 775–777 {16}
Trilling DE, Brown RH, Rivkin AS, 2000, Circumstellar dust disks around stars with known planetary companions. *ApJ*, 529, 499–505 {3, 5, 13, 16}
Trilling DE, Mommert M, Hora JL, et al., 2018, Spitzer observations of interstellar object Oumuamua. *AJ*, 156, 261 {55}
Trilling DE, Robinson T, Roegge A, et al., 2017, Implications for planetary system formation from interstellar object Oumuamua. *ApJ*, 850, L38 {54}
Tripathi A, Winn JN, Johnson JA, et al., 2010, A prograde, low-inclination orbit for the very hot Jupiter WASP–3 b. *ApJ*, 715, 421–428 {41}
Troutman MR, Hinkle KH, Najita JR, et al., 2011, Ro-vibrational CO detected in the β Pic circumstellar disk. *ApJ*, 738, 12 {52}
Tsai SM, Dobbs-Dixon I, Gu PG, 2014, Three-dimensional structures of equatorial waves and the resulting superrotation in the atmosphere of a tidally-locked hot Jupiter. *ApJ*, 793, 141 {19}
Tsai SM, Lyons JR, Grosheintz L, et al., 2017, VULCAN: an open-source, validated chemical kinetics Python code for exoplanetary atmospheres. *ApJS*, 228, 20 {19, 21}
Tsapras Y, Choi JY, Street RA, et al., 2014, A super-Jupiter orbiting a late-type star: a refined analysis of microlensing event OGLE–2012–BLG–406. *ApJ*, 782, 48 {50}
Tsiaras A, Rocchetto M, Waldmann IP, et al., 2016a, Detection of an atmosphere around the super-Earth 55 Cnc e. *ApJ*, 820, 99 {16}
Tsiaras A, Waldmann IP, Rocchetto M, et al., 2016b, A new approach to analysing HST spatial scans: the transmission spectrum of HD 209458 b. *ApJ*, 832, 202 {21}
Tsiaras A, Waldmann IP, Zingales T, et al., 2018, A population study of gaseous exoplanets. *AJ*, 155, 156 {46, 47}
Tucci Maia M, Meléndez J, Ramírez I, 2014, High precision abundances in the 16 Cyg binary system: a signature of the rocky core in the giant planet. *ApJ*, 790, L25 {3}
Tuomi M, 2011, Bayesian re-analysis of the radial velocities of GJ 581: evidence in favour of only four planetary companions. *A&A*, 528, L5 {5}
—, 2012, Evidence for nine planets in the HD 10180 system. *A&A*, 543, A52 {6}
—, 2014, A new cold sub-Saturnian candidate planet orbiting GJ 221. *MNRAS*, 440, L1–L5 {4}
Tuomi M, Anglada-Escudé G, 2013, Up to four planets around the M dwarf GJ 163: sensitivity of Bayesian planet detection criteria to prior choice. *A&A*, 556, A111 {4}
Tuomi M, Anglada-Escudé G, Gerlach E, et al., 2013a, Habitable-zone super-Earth candidate in a six-planet system around the K2.5V star HD 40307. *A&A*, 549, A48 {8}
Tuomi M, Jones HRA, 2012, Probabilities of exoplanet signals from posterior samplings. *A&A*, 544, A116 {6}
Tuomi M, Jones HRA, Barnes JR, et al., 2014, Bayesian search for low-mass planets around nearby M dwarfs: estimates for occurrence rate based on global detectability statistics. *MNRAS*, 441, 1545–1569 {5}
Tuomi M, Jones HRA, Jenkins JS, et al., 2013b, Signals embedded in the radial velocity noise: periodic variations in the τ Cet velocities. *A&A*, 551, A79 {3}
Tuomi M, Kotiranta S, 2009, Bayesian analysis of the radial velocities of HD 11506 reveals another planetary companion. *A&A*, 496, L13–L16 {7}
Tuomi M, Pinfield D, Jones HRA, 2011, Application of Bayesian model inadequacy criterion for multiple data sets to radial velocity models of exoplanet systems. *A&A*, 532, A116 {1, 5, 13}
Turbet M, Bolmont E, Leconte J, et al., 2018, Modeling climate diversity, tidal dynamics and the fate of volatiles on TRAPPIST–1 planets. *A&A*, 612, A86 {40}
Turbet M, Leconte J, Selsis F, et al., 2016, The habitability of Proxima Cen b. II. Possible climates and observability. *A&A*, 596, A112 {2}
Turner JD, Christie D, Arras P, et al., 2016a, Investigation of the environment around close-in transiting exoplanets using CLOUDY. *MNRAS*, 458, 3880–3891 {19, 43}
Turner JD, Leiter RM, Biddle LI, et al., 2017, Investigating the physical properties of transiting hot Jupiters with the 1.5-m Kuiper Telescope. *MNRAS*, 472, 3871–3886 {22, 24, 25, 26, 41, 44, 46, 47, 48}
Turner JD, Pearson KA, Biddle LI, et al., 2016b, Ground-based near-UV observations of 15 transiting exoplanets: constraints on their atmospheres and no evidence for asymmetrical transits. *MNRAS*, 459, 789–819 {17, 21, 23, 25, 41, 44, 45, 46}
Turner JD, Smart BM, Hardegree-Ullman KK, et al., 2013, Near-ultraviolet and optical

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observations of the transiting exoplanet TrES–3 b. *MNRAS*, 428, 678–690 {41}
Turner OD, Anderson DR, Collier Cameron A, et al., 2016c, WASP–120, WASP–122 b, and WASP–123 b: three newly-discovered planets from the WASP-South survey. *PASP*, 128(6), 064401 {27, 47}
Turnpenney S, Nichols JD, Wynn GA, et al., 2018, Exoplanet-induced radio emission from M dwarfs. *ApJ*, 854, 72 {2, 39, 40}
Tutukov AV, Fedorova AV, 2013, The planet around the horizontal-branch star HIP 13044. *Astronomy Reports*, 57, 65–69 {13}
Udalski A, Jaroszyński M, Paczyński B, et al., 2005, A Jovian-mass planet in microlensing event OGLE–2005–BLG–71. *ApJ*, 628, L109–L112 {49}
Udalski A, Jung YK, Han C, et al., 2015a, A Venus-mass planet orbiting a brown dwarf: a missing link between planets and moons. *ApJ*, 812, 47 {50}
Udalski A, Pont F, Naef D, et al., 2008, OGLE–TR–211: a new transiting inflated hot Jupiter from the OGLE survey and ESO LP666 spectroscopic follow-up programme. *A&A*, 482, 299–304 {39}
Udalski A, Ryu YH, Sajadian S, et al., 2018, OGLE–2017–BLG–1434L b: eighth $q < 1 \times 10^{-4}$ mass-ratio microlens planet confirms turnover in planet mass-ratio function. *Acta Astronomica*, 68, 1–42 {50}
Udalski A, Yee JC, Gould A, et al., 2015b, Spitzer as a microlens parallax satellite: mass measurement for the OGLE–2014–BLG–124L planet and its host star. *ApJ*, 799, 237 {50}
Udry S, Bonfils X, Delfosse X, et al., 2007, The HARPS search for southern extrasolar planets. XI. Super-Earths (5 and 8$M_\oplus$) in a 3-planet system. *A&A*, 469, L43–L47 {5}
Udry S, Mayor M, Benz W, et al., 2006, The HARPS search for southern extrasolar planets. V. A 14 Earth-mass planet orbiting HD 4308. *A&A*, 447, 361–367 {6}
Udry S, Mayor M, Clausen JV, et al., 2003a, The CORALIE survey for southern extrasolar planets. X. A Hot Jupiter orbiting HD 73256. *A&A*, 407, 679–684 {9}
Udry S, Mayor M, Naef D, et al., 2000, The CORALIE survey for southern extrasolar planets. II. The short-period planetary companions to HD 75289 and HD 130322. *A&A*, 356, 590–598 {9, 10}
—, 2002, The CORALIE survey for southern extrasolar planets. VIII. The very low-mass companions of HD 141937, HD 162020, HD 168443 and HD 202206: brown dwarfs or superplanets? *A&A*, 390, 267–279 {11, 12}
Udry S, Mayor M, Queloz D, 2003b, Extrasolar planets: from individual detections to statistical properties. *Scientific Frontiers in Research on Extrasolar Planets*, volume 294 of *ASP Conf. Ser.*, 17–26 {7, 10, 11, 12, 13}
Unterborn CT, Desch SJ, Hinkel NR, et al., 2018, Inward migration of the TRAPPIST–1 planets as inferred from their water-rich compositions. *Nature Astronomy*, 2, 297–302 {40}
Unterborn CT, Dismukes EE, Panero WR, 2016, Scaling the Earth: a sensitivity analysis of terrestrial exoplanetary interior models. *ApJ*, 819, 32 {29}
Uyama T, Hashimoto J, Kuzuhara M, et al., 2017, The SEEDS high-contrast imaging survey of exoplanets around young stellar objects. *AJ*, 153, 106 {52, 53, 54}
Vaccaro T, Van Hamme W, 2005, The OGLE–TR–56 star–planet system. *Ap&SS*, 296, 231–234 {39}
Vahidinia S, Cuzzi JN, Marley M, et al., 2014, Cloud base signature in transmission spectra of exoplanet atmospheres. *ApJ*, 789, L11 {19}
Valencia D, Guillot T, Parmentier V, et al., 2013, Bulk composition of GJ 1214 b and other sub-Neptune exoplanets. *ApJ*, 775, 10 {23}
Valencia D, Ikoma M, Guillot T, et al., 2010, Composition and fate of short-period super-Earths: the case of CoRoT–7 b. *A&A*, 516, A20 {22}
Valenti JA, Fischer D, Marcy GW, et al., 2009, Two exoplanets discovered at Keck observatory. *ApJ*, 702, 989–997 {9, 12}
Valio A, Estrela R, Netto Y, et al., 2017, Activity and rotation of Kepler–17. *ApJ*, 835, 294 {28}
Valliappan SP, Karoff C, 2012, Is one month of observations enough? A case study on Kepler–21. *Astron. Nach.*, 333, 987–990 {28}
Valsecchi F, Rasio FA, 2014, Planets on the edge. *ApJ*, 787, L9 {42, 44}
Valyavin GG, Grauzhanina AO, Galazutdinov GA, et al., 2015a, Search for signatures of reflected light from the exoplanet HD 189733 b by the method of residual dynamical spectra. *Astrophysical Bulletin*, 70, 466–473 {19}
Valyavin GG, Valeev AF, Gadelshin DR, et al., 2015b, First detection of exoplanet transits with the SAO RAS 1-m telescope. *Astrophysical Bulletin*, 70, 315–317 {45, 47}
van Eyken JC, Ciardi DR, von Braun K, et al., 2012, The PTF Orion project: a possible planet transiting a T Tauri star (PTFO 8–8695). *ApJ*, 755, 42 {39}
Van Eylen V, Albrecht S, 2015, Eccentricity from transit photometry: small planets in Kepler multi-planet systems have low eccentricities. *ApJ*, 808, 126 {27, 28, 29, 30, 31, 32, 33, 34, 35}
Van Eylen V, Albrecht S, Gandolfi D, et al., 2016a, The K2–ESPRINT Project. V. A short-period giant planet orbiting a subgiant star. *AJ*, 152, 143 {37}
Van Eylen V, Dai F, Mathur S, et al., 2018, HD 89345: a bright oscillating star hosting a transiting warm Saturn-sized planet observed by K2. *MNRAS*, 478, 4866–4880 {38}
Van Eylen V, Kjeldsen H, Christensen-Dalsgaard J, et al., 2012, Properties of extrasolar planets and their host stars: a case study of HAT–P–7. *Astron. Nach.*, 333, 1088 {24}
Van Eylen V, Lindholm Nielsen M, Hinrup B, et al., 2013, Investigation of systematic effects in Kepler data: seasonal variations in the light curve of HAT–P–7 b. *ApJ*, 774, L19 {24}
Van Eylen V, Lund MN, Silva Aguirre V, et al., 2014, What asteroseismology can do for exoplanets: Kepler–410A b is a small Neptune around a bright star, in an eccentric orbit consistent with low obliquity. *ApJ*, 782, 14 {34}
Van Eylen V, Nowak G, Albrecht S, et al., 2016b, The K2–ESPRINT Project. II. Spectroscopic follow-up of three exoplanet systems from Campaign 1 of K2. *ApJ*, 820, 56 {37}
Van Grootel V, Fernandes CS, Gillon M, et al., 2018, Stellar parameters for TRAPPIST–1. *ApJ*, 853, 30 {40}
Van Grootel V, Gillon M, Valencia D, et al., 2014, Transit confirmation and improved stellar and planet parameters for the super-Earth HD 97658 b and its host star. *ApJ*, 786, 2 {17}
Van Laerhoven CL, Greenberg R, 2012, Characterising multi-planet systems with classical secular theory. *Cel. Mech. Dyn. Astron.*, 113, 215–234 {16}
van Lieshout R, Min M, Dominik C, 2014, Dusty tails of evaporating exoplanets. I. Constraints on the dust composition. *A&A*, 572, A76 {36, 37}
van Lieshout R, Min M, Dominik C, et al., 2016, Dusty tails of evaporating exoplanets. II. Physical modelling of the KIC–12557548 b light curve. *A&A*, 596, A32 {36}
van Werkhoven TIM, Brogi M, Snellen IAG, et al., 2014a, Analysis and interpretation of 15 quarters of Kepler data of the disintegrating planet KIC–12557548 b. *A&A*, 561, A3 {36}
van Werkhoven TIM, Kenworthy MA, Mamajek EE, 2014b, Analysis of 1SWASP J1407 eclipse fine-structure: hints of exomoons. *MNRAS*, 441, 2845–2854 {41}
Vanderburg A, Becker JC, Buchhave LA, et al., 2017, Precise masses in the WASP–47 system. *AJ*, 154, 237 {45}
Vanderburg A, Becker JC, Kristiansen MH, et al., 2016a, Five planets transiting a ninth magnitude star. *ApJ*, 827, L10 {38}
Vanderburg A, Bieryla A, Duev DA, et al., 2016b, Two small planets transiting HD 3167. *ApJ*, 829, L9 {38}
Vanderburg A, Montet BT, Johnson JA, et al., 2015, Characterising K2 planet discoveries: a super-Earth transiting the bright K dwarf HIP 116454. *ApJ*, 800, 59 {37}
Vanderburg A, Rappaport SA, Mayo AW, 2018, Detecting exomoons via Doppler monitoring of directly imaged exoplanets. *AJ*, 156, 184 {36}
Vauclair S, Laymand M, Bouchy F, et al., 2008, The exoplanet-host star ι Hor: an evaporated member of the primordial Hyades cluster. *A&A*, 482, L5–L8 {14}
Vaňko M, Evans P, G Tan T, 2015, The refined physical properties of the transiting exoplanetary system WASP–41. *Astron. Nach.*, 336, 145 {45}
Vaňko M, Maciejewski G, Jakubík M, et al., 2013, Photometric follow-up of the transiting planetary system TrES–3: transit timing variation and long-term stability of the system. *MNRAS*, 432, 944–953 {41}
Venot O, Agúndez M, Selsis F, et al., 2014, The atmospheric chemistry of the warm Neptune GJ 3470 b: influence of metallicity and temperature on the CH_4/CO ratio. *A&A*, 562, A51 {17}
Venot O, Hébrard E, Agúndez M, et al., 2012, A chemical model for the atmosphere of hot Jupiters. *A&A*, 546, A43 {18, 20}
Venturini J, Alibert Y, Benz W, 2016, Planet formation with envelope enrichment: new insights on planetary diversity. *A&A*, 596, A90 {19, 21, 43, 45}
Veras D, 2007, A resonant-term-based model including a nascent disk, precession, and oblateness: application to GJ 876. *Cel. Mech. Dyn. Astron.*, 99, 197–243 {5}
Veras D, Breedt E, 2017, Eclipse, transit and occultation geometry of planetary systems at exo-syzygy. *MNRAS*, 468, 2672–2683 {31, 35, 40}
Veras D, Ford EB, 2009, Secular evolution of HD 12661: a system caught at an unlikely time. *ApJ*, 690, L1–L4 {7}
—, 2010, Secular orbital dynamics of hierarchical two-planet systems. *ApJ*, 715, 803–822 {7, 8, 10, 11, 12}
Veras D, Mustill AJ, Gänsicke BT, 2017, The unstable fate of the planet orbiting the A star in the HD 131399 triple stellar system. *MNRAS*, 465, 1499–1504 {53}
Verrier PE, Evans NW, 2006, Planets and asteroids in the γ Cep system. *MNRAS*, 368, 1599–1608 {2}
Veyette MJ, Muirhead PS, 2018, Chemo-kinematic ages of eccentric-planet-hosting M dwarf stars. *ApJ*, 863, 166 {5, 6, 13, 17}
Vida K, Kővári Z, Pál A, et al., 2017, Frequent flaring in the TRAPPIST–1 system: unsuited for life? *ApJ*, 841, 124 {40}
Vidal-Madjar A, Désert JM, Lecavelier des Etangs A, et al., 2004, Detection of oxygen and carbon in the hydrodynamically escaping atmosphere of the extrasolar planet HD 209458 b. *ApJ*, 604, L69–L72 {20}
Vidal-Madjar A, Huitson CM, Bourrier V, et al., 2013, Magnesium in the atmosphere of the planet HD 209458 b: observations of the thermosphere-exosphere transition region. *A&A*, 560, A54 {20}
Vidal-Madjar A, Kiefer F, Lecavelier des Etangs A, et al., 2017, Fe I in the β Pic circumstellar gas disk. I. Physical properties of the neutral iron gas. *A&A*, 607, A25 {52}
Vidal-Madjar A, Lecavelier des Etangs A, Désert JM, et al., 2003, An extended upper atmosphere around the extrasolar planet HD 209458 b. *Nature*, 422, 143–146 {20}
—, 2008, Exoplanet HD 209458 b (Osiris): evaporation strengthened. *ApJ*, 676, L57–L60 {20}
Vidal-Madjar A, Sing DK, Lecavelier Des Etangs A, et al., 2011, The upper atmosphere of the exoplanet HD 209458 b revealed by the sodium D lines. *A&A*, 527, A110 {20}
Vidotto AA, Bourrier V, 2017, Exoplanets as probes of the winds of host stars: the case of the M dwarf GJ 436. *MNRAS*, 470, 4026–4033 {17}
Vidotto AA, Donati JF, 2017, Predicting radio emission from the newborn hot Jupiter V830 Tau b and its host star. *A&A*, 602, A39 {4}
Vidotto AA, Fares R, Jardine M, et al., 2012, The stellar wind cycles and planetary radio emission of the τ Boo system. *MNRAS*, 423, 3285–3298 {2}
—, 2015, On the environment surrounding close-in exoplanets. *MNRAS*, 449, 4117–4130 {8, 9, 10, 12}
Vidotto AA, Jardine M, Helling C, 2010, Early ultraviolet ingress in WASP–12 b: measuring planetary magnetic fields. *ApJ*, 722, L168–L172 {42}
—, 2011, Prospects for detection of exoplanet magnetic fields through bow-shock observations during transits. *MNRAS*, 411, L46–L50 {21, 22, 24, 41, 42, 43, 44}
Vidotto AA, Jardine M, Morin J, et al., 2014, M dwarf stellar winds: the effects of realistic magnetic geometry on rotational evolution and planets. *MNRAS*, 438, 1162–1175 {54}
Vidotto AA, Lichtenegger H, Fossati L, et al., 2018, Characterisation of the HD 219134 multi-planet system. II. Stellar-wind sputtered exospheres in rocky planets b and c. *MNRAS*, 481, 5296–5306 {21}
Villanueva S Jr, Eastman JD, Gaudi BS, 2016, The dedicated monitor of exotransits (DEMONEX): seven transits of XO–4 b. *ApJ*, 820, 87 {48}
Villarreal D'Angelo C, Esquivel A, Schneiter M, et al., 2018, Magnetised winds and their influence in the escaping upper atmosphere of HD 209458 b. *MNRAS*, 479,

3115–3125 {21}

Villarreal D'Angelo C, Schneiter M, Costa A, et al., 2014, On the sensitivity of extra-solar mass-loss rate ranges: HD 209458 b a case study. *MNRAS*, 438, 1654–1662 {20}

Villaver E, Niedzielski A, Wolszczan A, et al., 2017, Tracking Advanced Planetary Systems (TAPAS) with HARPS–N. V. A massive Jupiter orbiting the very-low-metallicity giant star BD+03 2562 and a possible planet around HD 103485. *A&A*, 606, A38 {4}

Visscher C, 2012, Chemical time scales in the atmospheres of highly eccentric exoplanets. *ApJ*, 757, 5 {22, 23}

Visscher C, Moses JI, 2011, Quenching of CO and CH_4 in the atmospheres of cool brown dwarfs and hot Jupiters. *ApJ*, 738, 72 {18}

Vogt SS, Burt J, Meschiari S, et al., 2015, Six planets orbiting HD 219134. *ApJ*, 814, 12 {21}

Vogt SS, Butler RP, Burt J, et al., 2017, A six-planet system around the star HD 34445. *AJ*, 154, 181 {7}

Vogt SS, Butler RP, Haghighipour N, 2012, GJ 581 update: additional evidence for a super-Earth in the habitable zone. *Astron. Nach.*, 333, 561 {5}

Vogt SS, Butler RP, Marcy GW, et al., 2002, Ten low-mass companions from the Keck precision velocity survey. *ApJ*, 568, 352–362 {6, 8, 10}

—, 2005, Five new multicomponent planetary systems. *ApJ*, 632, 638–658 {7, 8, 10, 12, 13}

Vogt SS, Butler RP, Rivera EJ, et al., 2010a, The Lick–Carnegie exoplanet survey: a 3.1 Earth-mass planet in the habitable zone of the nearby M3V star GJ 581. *ApJ*, 723, 954–965 {5}

—, 2014, A four-planet system orbiting the K0V star HD 141399. *ApJ*, 787, 97 {11}

Vogt SS, Marcy GW, Butler RP, et al., 2000, Six new planets from the Keck precision velocity survey. *ApJ*, 536, 902–914 {7, 10, 12, 13}

Vogt SS, Wittenmyer RA, Butler RP, et al., 2010b, A super-Earth and two Neptunes orbiting the nearby Sun-like star 61 Vir. *ApJ*, 708, 1366–1375 {4}

von Bloh W, Bounama C, Cuntz M, et al., 2007, The habitability of super-Earths in GJ 581. *A&A*, 476, 1365–1371 {5}

von Bloh W, Cuntz M, Franck S, et al., 2003, On the possibility of Earth-type habitable planets in the 55 Cnc system. *Astrobiology*, 3, 681–688 {16}

—, 2011, Habitability of the Goldilocks planet GJ 581 g: results from geodynamic models. *A&A*, 528, A133 {5}

von Braun K, Boyajian TS, Kane SR, et al., 2011a, Astrophysical parameters and habitable zone of the exoplanet hosting star GJ 581. *ApJ*, 729, L26 {5}

—, 2012, The GJ 436 system: directly determined astrophysical parameters of an M dwarf and implications for the transiting hot Neptune. *ApJ*, 753, 171 {17}

von Braun K, Boyajian TS, ten Brummelaar TA, et al., 2011b, 55 Cnc: stellar astrophysical parameters, a planet in the habitable zone, and implications for the radius of a transiting super-Earth. *ApJ*, 740, 49 {16}

von Braun K, Boyajian TS, van Belle GT, et al., 2014, Stellar diameters and temperatures. V. 11 newly characterised exoplanet host stars. *MNRAS*, 438, 2413–2425 {3, 4, 5, 6, 7, 13}

von Essen C, Cellone S, Mallonn M, et al., 2017, Testing connections between exo-atmospheres and their host stars. GEMINI-N/GMOS ground-based transmission spectrum of Qatar-1b. *A&A*, 603, A20 {39}

von Essen C, Czesla S, Wolter U, et al., 2014, Pulsation analysis and its impact on primary transit modeling in WASP–33. *A&A*, 561, A48 {44}

von Essen C, Mallonn M, Albrecht S, et al., 2015, A temperature inversion in WASP–33 b? Large Binocular Telescope occultation data confirm significant thermal flux at short wavelengths. *A&A*, 584, A75 {44}

von Essen C, Schröter S, Agol E, et al., 2013, Qatar–1: indications for possible transit timing variations. *A&A*, 555, A92 {39}

von Paris P, Cabrera J, Godolt M, et al., 2011a, Spectroscopic characterisation of the atmospheres of potentially habitable planets: GJ 581 d as a model case study. *A&A*, 534, A26 {5}

von Paris P, Gebauer S, Godolt M, et al., 2010, The extrasolar planet GJ 581 d: a potentially habitable planet?. *A&A*, 522, A23 {5}

—, 2011b, Atmospheric studies of habitability in the GJ 581 system. *A&A*, 532, A58 {5}

von Paris P, Gratier P, Bordé P, et al., 2016a, Inferring asymmetric limb cloudiness on exoplanets from transit light curves. *A&A*, 589, A52 {21, 24, 27}

—, 2016b, Inferring heat recirculation and albedo for exoplanetary atmospheres: comparing optical phase curves and secondary eclipse data. *A&A*, 587, A149 {21, 24, 41}

Voyatzis G, 2008, Chaos, order, and periodic orbits in 3:1 resonant planetary dynamics. *ApJ*, 675, 802–816 {16}

Voyatzis G, Hadjidemetriou JD, 2006, Symmetric and asymmetric 3:1 resonant periodic orbits with an application to the 55 Cnc extrasolar system. *Cel. Mech. Dyn. Astron.*, 95, 259–271 {16}

Wagner FW, Tosi N, Sohl F, et al., 2012, Rocky super-Earth interiors: structure and internal dynamics of CoRoT–7 b and Kepler–10 b. *A&A*, 541, A103 {22, 27}

Wagner KR, Apai D, Kasper M, et al., 2016, Direct imaging discovery of a Jovian exoplanet within a triple-star system. *Science*, 353, 673–678 {53}

Wahhaj Z, Koerner DW, Ressler ME, et al., 2003, The inner rings of β Pic. *ApJ*, 584, L27–L31 {52}

Wakeford HR, Sing DK, Deming D, et al., 2013, HST hot Jupiter transmission spectral survey: detection of water in HAT–P–1 b from WFC3 near-IR spatial scan observations. *MNRAS*, 435, 3481–3493 {23}

—, 2018, The complete transmission spectrum of WASP–39 b with a precise water constraint. *AJ*, 155, 29 {45}

Wakeford HR, Sing DK, Kataria T, et al., 2017a, HAT–P–26 b: a Neptune-mass exoplanet with a well-constrained heavy element abundance. *Science*, 356, 628–631 {25}

Wakeford HR, Stevenson KB, Lewis NK, et al., 2017b, HST PanCET programme: a cloudy atmosphere for the promising JWST target WASP–101 b. *ApJ*, 835, L12 {47}

Wakeford HR, Visscher C, Lewis NK, et al., 2017c, High-temperature condensate clouds in super-hot Jupiter atmospheres. *MNRAS*, 464, 4247–4254 {43}

Waldmann IP, Tinetti G, Deroo P, et al., 2013, Blind extraction of an exoplanetary spectrum through independent component analysis. *ApJ*, 766, 7 {19}

Waldmann IP, Tinetti G, Drossart P, et al., 2012, Ground-based near-infrared emission spectroscopy of HD 189733 b. *ApJ*, 744, 35 {18}

Walker GAH, Bohlender DA, Walker AR, et al., 1992, γ Cep: rotation or planetary companion? *ApJ*, 396, L91–L94 {2}

Walker GAH, Croll B, Matthews JM, et al., 2008, MOST detects variability on τ Boo a possibly induced by its planetary companion. *A&A*, 482, 691–697 {2}

Walsh C, Daley C, Facchini S, et al., 2017, CO emission tracing a warp or radial flow within 100 au in the HD 100546 protoplanetary disk. *A&A*, 607, A114 {53}

Walsh C, Juhász A, Pinilla P, et al., 2014, ALMA hints at the presence of two companions in the disk around HD 100546. *ApJ*, 791, L6 {53}

Wang J, Fischer DA, Barclay T, et al., 2013a, Planet Hunters. V. A confirmed Jupiter-size planet in the habitable zone and 42 planet candidates from the Kepler archive. *ApJ*, 776, 10 {31}

—, 2015, Planet Hunters. VIII. Characterisation of 41 long-period exoplanet candidates from Kepler archival data. *ApJ*, 815, 127 {35}

Wang J, Mawet D, Fortney JJ, et al., 2018a, Detecting water in the atmosphere of HR 8799 c with L-band high-dispersion spectroscopy aided by adaptive optics. *AJ*, 156, 272 {53}

Wang J, Xie JW, Barclay T, et al., 2014a, Influence of stellar multiplicity on planet formation. I. Evidence of suppressed planet formation due to stellar companions within 20 au and validation of four planets from the Kepler multiple planet candidates. *ApJ*, 783, 4 {32, 34}

Wang JJ, Graham JR, Dawson R, et al., 2018b, Dynamical constraints on the HR 8799 planets with GPI. *AJ*, 156, 192 {53}

Wang JJ, Graham JR, Pueyo L, et al., 2016, The orbit and transit prospects for β Pic b constrained with one milliarcsecond astrometry. *AJ*, 152, 97 {52}

Wang L, Sato B, Omiya M, et al., 2014b, A long-period eccentric substellar companion to the evolved intermediate-mass star HD 14067. *PASJ*, 66, 118 {7}

Wang S, 2011, Configuration formation and dynamics of exoplanet systems. *Acta Astronomica Sinica*, 52, 355–356 {8, 50}

Wang S, Addison B, Fischer DA, et al., 2018c, Stellar spin–orbit alignment for Kepler–9, a multi-transiting planetary system with two outer planets near 2:1 resonance. *AJ*, 155, 70 {27}

Wang S, Ji J, 2017, Near mean-motion resonances in the system observed by Kepler: affected by mass accretion and type I migration. *AJ*, 154, 236 {30, 32, 33, 34, 35}

Wang S, Ji J, Zhou JL, 2012a, Predicting the configuration of a planetary system: KOI–152 observed by Kepler. *ApJ*, 753, 170 {31}

Wang S, Wang XY, Wang YH, et al., 2018d, Transiting Exoplanet Monitoring Project (TEMP). I. Refined system parameters and transit timing variations of HAT–P–29 b. *AJ*, 156, 181 {25}

Wang S, Wright JT, Cochran W, et al., 2012b, The discovery of HD 37605 c and a dispositive null detection of transits of HD 37605 b. *ApJ*, 761, 46 {7}

Wang S, Wu DH, Addison BC, et al., 2018e, Transiting Exoplanet Monitoring Project (TEMP). III. On the relocation of the Kepler–9 b transit. *AJ*, 155, 73 {27}

Wang S, Zhao G, Zhou J, 2009, Dynamics and eccentricity formation of planets in OGLE–2006–BLG–109L system. *ApJ*, 706, 772–784 {50}

Wang S, Zhou JL, 2011, Forming habitable planets around dwarf stars: application to OGLE–2006–BLG–109L. *ApJ*, 727, 108 {50}

Wang W, van Boekel R, Madhusudhan N, et al., 2013b, Ground-based detections of thermal emission from the dense hot Jupiter WASP–43 b in the H and Ks bands. *ApJ*, 770, 70 {45}

Wang XB, Gu SH, Collier Cameron A, et al., 2013c, The refined physical parameters of transiting exoplanet system HAT–P–24. *Res. Astron. Astrophys.*, 13, 593 {25}

—, 2014c, The refined physical properties of transiting exoplanetary system WASP–11/HAT–P–10. *AJ*, 147, 92 {42}

Wang Y, Zhou JI, Hui-gen L, et al., 2017a, Forming different planetary architectures. I. The formation efficiency of hot Jupiters from high-eccentricity mechanisms. *ApJ*, 848, 20 {1, 13, 45}

Wang YH, Wang S, Liu HG, et al., 2017b, Transiting Exoplanet Monitoring Project (TEMP). II. Refined system parameters and transit timing analysis of HAT–P–33 b. *AJ*, 154, 49 {25}

Wang Z, Cuntz M, 2017, Fitting formulae and constraints for the existence of S-type and P-type habitable zones in binary systems. *AJ*, 154, 157 {29, 34, 36, 41}

Watson CA, Marsh TR, 2010, Orbital period variations of hot Jupiters caused by the Applegate effect. *MNRAS*, 405, 2037 {43}

Weber C, Erkaev NV, Ivanov VA, et al., 2018, Supermassive hot Jupiters provide more favourable conditions for the generation of radio emission via the cyclotron maser instability: a case study based on τ Boo b. *MNRAS*, 480, 3680–3688 {2}

Weber C, Lammer H, Shaikhislamov IF, et al., 2017, How expanded ionospheres of Hot Jupiters can prevent escape of radio emission generated by the cyclotron maser instability. *MNRAS*, 469, 3505–3517 {19, 21}

Weidner C, Horne K, 2010, Limits on the orbits and masses of moons around currently-known transiting exoplanets. *A&A*, 521, A76 {22}

Weinberg NN, Sun M, Arras P, et al., 2017, Tidal dissipation in WASP–12. *ApJ*, 849, L11 {43}

Weiss LM, Deck KM, Sinukoff E, et al., 2017, New insights on planet formation in WASP–47 from a simultaneous analysis of radial velocities and transit timing variations. *AJ*, 153, 265 {45}

Weiss LM, Marcy GW, Rowe JF, et al., 2013, The mass of KOI–94 d and a relation for planet radius, mass, and incident flux. *ApJ*, 768, 14 {31}

Weiss LM, Rogers LA, Isaacson HT, et al., 2016, Revised masses and densities of the planets around Kepler–10. *ApJ*, 819, 83 {27}

Weldrake DTF, Bayliss DDR, Sackett PD, et al., 2008, Lupus–TR–3 b: a low-mass transiting hot Jupiter in the Galactic plane? *ApJ*, 675, L37–L40 {38}

Wells R, Poppenhaeger K, Watson CA, 2018, Three small transiting planets around the M-dwarf host star LP 358–499. *MNRAS*, 473, L131–L135 {38}

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Welsh BY, Montgomery S, 2016, Exocomet circumstellar Fe I absorption in the β Pic gas disk. *PASP*, 128(6), 064201 {52}

Welsh WF, Orosz JA, Carter JA, et al., 2012, Transiting circumbinary planets Kepler–34 b and Kepler–35 b. *Nature*, 481, 475–479 {29}

Welsh WF, Orosz JA, Seager S, et al., 2010, The discovery of ellipsoidal variations in the Kepler light curve of HAT–P–7. *ApJ*, 713, L145–L149 {24}

Welsh WF, Orosz JA, Short DR, et al., 2015, Kepler–453 b: the 10th Kepler transiting circumbinary planet. *ApJ*, 809, 26 {35}

Wertz O, Absil O, Gómez González CA, et al., 2017, VLT–SPHERE robust astrometry of the HR 8799 planets at milliarcsecond-level accuracy: orbital architecture analysis with PyAstrOFit. *A&A*, 598, A83 {53}

West RG, Anderson DR, Gillon M, et al., 2009a, The low density transiting exoplanet WASP–15 b. *AJ*, 137, 4834–4836 {43}

West RG, Collier Cameron A, Hebb L, et al., 2009b, The sub-Jupiter mass transiting exoplanet WASP–11 b. *A&A*, 502, 395–400 {42}

West RG, Hellier C, Almenara JM, et al., 2016, Three irradiated and bloated hot Jupiters: WASP–76 b, WASP–82 b, and WASP–90,b. *A&A*, 585, A126 {46}

Wheatley PJ, Louden T, Bourrier V, et al., 2017, Strong XUV irradiation of the Earth-sized exoplanets orbiting the ultracool dwarf TRAPPIST–1. *MNRAS*, 465, L74–L78 {40}

White JA, Boley AC, Dent WRF, et al., 2017, 1.3-mm ALMA observations of the Fomalhaut debris system. *MNRAS*, 466, 4201–4210 {51}

Wiedemann G, Deming D, Bjoraker G, 2001, A sensitive search for methane in the infrared spectrum of τ Boo. *ApJ*, 546, 1068–1074 {2}

Wiegert PA, Holman MJ, 1997, The stability of planets in the α Cen system. *AJ*, 113, 1445–1450 {2}

Wiktorowicz SJ, 2009, Non-detection of polarised, scattered light from the HD 189733 b hot Jupiter. *ApJ*, 696, 1116–1124 {18}

Wiktorowicz SJ, Laughlin GP, 2014, Toward the detection of exoplanet transits with polarimetry. *ApJ*, 795, 12 {17, 19, 20, 23, 25, 44, 45, 46}

Wilken T, Curto GL, Probst RA, et al., 2012, A spectrograph for exoplanet observations calibrated at the cm s^{-1} level. *Nature*, 485, 611–614 {9}

Wilkins AN, Delrez L, Barker AJ, et al., 2017, Searching for rapid orbital decay of WASP–18 b. *ApJ*, 836, L24 {44}

Wilkins AN, Deming D, Madhusudhan N, et al., 2014, The emergent 1.1–1.7 μm spectrum of the exoplanet CoRoT–2 b as measured using HST. *ApJ*, 783, 113 {21}

Willems B, Van Hoolst T, Smeyers P, et al., 1997, On the possibility of a tidally-excited low-frequency g-mode in 51 Peg. *A&A*, 326, L37–L40 {3}

Wilner DJ, Andrews SM, Hughes AM, 2011, Millimeter imaging of the β Pic debris disk: evidence for a planetesimal belt. *ApJ*, 727, L42 {52}

Wilner DJ, Bourke TL, Wright CM, et al., 2003, Disks around the young stars TW Hya and HD 100546 imaged at 3.4 mm with the Australia Telescope Compact Array. *ApJ*, 596, 597–602 {52}

Wilson DM, Enoch B, Christian DJ, et al., 2006, SuperWASP observations of the transiting extrasolar planet XO–1 b. *PASP*, 118, 1245–1251 {47}

Wilson DM, Gillon M, Hellier C, et al., 2008, WASP–4 b: a 12 mag transiting hot Jupiter in the southern hemisphere. *ApJ*, 675, L113–L116 {42}

Wilson PA, Colón KD, Sing DK, et al., 2014, A search for methane in the atmosphere of GJ 1214 b via GTC narrow-band transmission spectrophotometry. *MNRAS*, 438, 2395–2405 {23}

Wilson PA, Lecavelier des Etangs A, Vidal-Madjar A, et al., 2017, First detection of hydrogen in the β Pic gas disk. *A&A*, 599, A75 {52}

Wilson PA, Sing DK, Nikolov N, et al., 2015, GTC–OSIRIS transiting exoplanet atmospheric survey: detection of potassium in HAT–P–1 b from narrow-band spectrophotometry. *MNRAS*, 450, 192–200 {23}

Winn JN, Albrecht S, Johnson JA, et al., 2011a, Spin–orbit alignment for the circumbinary planet Kepler–16A. *ApJ*, 741, L1 {28}

Winn JN, Henry GW, Torres G, et al., 2008a, Five new transits of the super-Neptune HD 149026 b. *ApJ*, 675, 1531–1537 {17}

Winn JN, Holman MJ, 2005, Obliquity tides on hot Jupiters. *ApJ*, 628, L159–L162 {20}

Winn JN, Holman MJ, Bakos GÁ, et al., 2007a, The Transit Light Curve Project. VII. The not-so-bloated exoplanet HAT–P–1 b. *AJ*, 134, 1707–1712 {23}

—, 2008b, The Transit Light Curve Project. VII. The not-so-bloated exoplanet HAT–P–1 b (Erratum to: 2007AJ....134.1707W). *AJ*, 136, 1753 {23}

Winn JN, Holman MJ, Carter JA, et al., 2009a, The Transit Light Curve Project. XI. Submillimag photometry of two transits of the bloated planet WASP–4 b. *AJ*, 137, 3826–3833 {42}

Winn JN, Holman MJ, Fuentes CI, 2007b, The Transit Light Curve Project. II. Two transits of the exoplanet OGLE–TR–111 b. *AJ*, 133, 11–16 {39}

Winn JN, Holman MJ, Henry GW, et al., 2007c, The Transit Light Curve Project. V. System parameters and stellar rotation period of HD 189733. *AJ*, 133, 1828–1835 {18}

—, 2009b, The Transit Light Curve Project. X. A Christmas transit of HD 17156 b. *ApJ*, 693, 794–803 {17}

Winn JN, Holman MJ, Roussanova A, 2007d, The Transit Light Curve Project. III. TrES transits of TrES–1. *ApJ*, 657, 1098–1106 {40}

Winn JN, Holman MJ, Shporer A, et al., 2008c, The Transit Light Curve Project. VIII. Six occultations of the exoplanet TrES–3. *AJ*, 136, 267–271 {41}

Winn JN, Holman MJ, Torres G, et al., 2008d, The Transit Light Curve Project. IX. Evidence for a smaller radius of the exoplanet XO–3 b. *ApJ*, 683, 1076–1084 {48}

Winn JN, Howard AW, Johnson JA, et al., 2009c, The transit ingress and the tilted orbit of the extraordinarily eccentric exoplanet HD 80606 b. *ApJ*, 703, 2091–2100 {17}

—, 2011b, Orbital orientations of exoplanets: HAT–P–4 b is prograde and HAT–P–14 b is retrograde. *AJ*, 141, 63–67 {24, 25}

Winn JN, Johnson JA, Albrecht S, et al., 2009d, HAT–P–7 b: a retrograde or polar orbit, and a third body. *ApJ*, 703, L99–L103 {24}

Winn JN, Johnson JA, Fabrycky D, et al., 2009e, On the spin–orbit misalignment of the XO–3 exoplanetary system. *ApJ*, 700, 302–308 {48}

Winn JN, Johnson JA, Howard AW, et al., 2010a, The HAT–P–13 exoplanetary system: evidence for spin–orbit alignment and a third companion. *ApJ*, 718, 575–582 {25}

—, 2010b, The oblique orbit of the super-Neptune HAT–P–11 b. *ApJ*, 723, L223–L227 {24}

Winn JN, Johnson JA, Marcy GW, et al., 2006, Measurement of the spin–orbit alignment in the exoplanetary system HD 189733. *ApJ*, 653, L69–L72 {18}

Winn JN, Johnson JA, Narita N, et al., 2008e, The prograde orbit of exoplanet TrES–2 b. *ApJ*, 682, 1283–1288 {40}

Winn JN, Johnson JA, Peek KMG, et al., 2007e, Spin–orbit alignment for the eccentric exoplanet HD 147506 b (HAT–P–2). *ApJ*, 665, L167–L170 {23}

Winn JN, Matthews JM, Dawson RI, et al., 2011c, A super-Earth transiting a naked-eye star. *ApJ*, 737, L18 {16}

Winn JN, Suto Y, Turner EL, et al., 2004, A search for Hα absorption in the exosphere of the transiting extrasolar planet HD 209458 b. *PASJ*, 56, 655–662 {20}

Winterhalter D, Majid WA, Kuiper TB, et al., 2005, Search for radio emissions from extrasolar planets at 150 MHz. *AGU Fall Abstracts*, B1181+ {11, 12, 20}

Wisniewski JP, Clampin M, Grady CA, et al., 2008, The HD 163296 circumstellar disk in scattered light: evidence of time-variable self-shadowing. *ApJ*, 682, 548–558 {11}

Wittenmyer RA, Butler RP, Wang L, et al., 2016a, The Pan-Pacific Planet Search. III. Five companions orbiting giant stars. *MNRAS*, 455, 1398–1405 {11}

Wittenmyer RA, Endl M, Cochran WD, 2007, Long-period objects in the extrasolar planetary systems 47 UMa and 14 Her. *ApJ*, 654, 625–632 {3, 4}

Wittenmyer RA, Endl M, Wang L, et al., 2011, The Pan-Pacific planet search. I. A giant planet orbiting 7 CMa. *ApJ*, 743, 184 {3}

Wittenmyer RA, Horner J, Mengel MW, et al., 2017a, The Anglo–Australian Planet Search. XXV. A candidate massive Saturn analogue orbiting HD 30177. *AJ*, 153, 167 {7}

Wittenmyer RA, Horner J, Tinney CG, 2012a, Resonances required: dynamical analysis of the 24 Sex and HD 200964 planetary systems. *ApJ*, 761, 165 {4, 12}

Wittenmyer RA, Horner J, Tinney CG, et al., 2014a, The Anglo–Australian Planet Search. XXIII. Two new Jupiter analogues. *ApJ*, 783, 103 {10, 11}

Wittenmyer RA, Horner J, Tuomi M, et al., 2012b, The Anglo–Australian Planet Search. XXII. Two new multi-planet systems. *ApJ*, 753, 169 {6, 11}

Wittenmyer RA, Johnson JA, Butler RP, et al., 2016b, The Pan-Pacific Planet Search. IV. Two super-Jupiters in a 3:5 resonance orbiting the giant star HD 33844. *ApJ*, 818, 35 {7}

Wittenmyer RA, Jones MI, Horner J, et al., 2017b, The Pan-Pacific Planet Search. VII. The most eccentric planet orbiting a giant star. *AJ*, 154, 274 {9}

Wittenmyer RA, Jones MI, Zhao J, et al., 2017c, The Pan-Pacific Planet Search. VI. Giant planets orbiting HD 86950 and HD 222076. *AJ*, 153, 51 {9, 13}

Wittenmyer RA, Tan X, Lee MH, et al., 2014b, A detailed analysis of the HD 73526 2:1 resonant planetary system. *ApJ*, 780, 140 {9}

Wittenmyer RA, Tuomi M, Butler RP, et al., 2014c, GJ 832 c: a super-Earth in the habitable zone. *ApJ*, 791, 114 {5}

Wittenmyer RA, Wang L, Liu F, et al., 2015, The Pan-Pacific Planet Search. II. Confirmation of a two-planet system around HD 121056. *ApJ*, 800, 74 {10}

Wittenmyer RA, Wang S, Horner J, et al., 2013, Forever alone? Testing single eccentric planetary systems for multiple companions. *ApJS*, 208, 2 {5, 6, 8, 9, 10}

Wittenmyer RA, Welsh WF, Orosz JA, et al., 2005, System parameters of the transiting extrasolar planet HD 209458 b. *ApJ*, 632, 1157–1167 {20}

Wittrock JM, Kane SR, Horch EP, et al., 2016, Stellar companions to the exoplanet host stars HD 2638 and HD 164509. *AJ*, 152, 149 {6, 11}

Wolf AS, Laughlin G, Henry GW, et al., 2007, A determination of the spin–orbit alignment of the anomalously dense planet orbiting HD 149026. *ApJ*, 667, 549–556 {17}

Wolf ET, 2017, Assessing the habitability of the TRAPPIST–1 system using a 3d climate model. *ApJ*, 839, L1 {40}

Wolff SG, Ménard F, Caceres C, et al., 2017, An upper limit on the mass of the circumplanetary disk for DH Tau b. *AJ*, 154, 26 {52}

Wöllert M, Brandner W, 2015, A lucky imaging search for stellar sources near 74 transit hosts. *A&A*, 579, A129 {25, 46, 47}

Wöllert M, Brandner W, Bergfors C, et al., 2015, A lucky imaging search for stellar companions to transiting planet host stars. *A&A*, 575, A23 {22, 24, 26, 36, 41, 43, 46}

Wolter U, Schmitt JHMM, Huber KF, et al., 2009, Transit mapping of a star spot on CoRoT–2. Probing a stellar surface with planetary transits. *A&A*, 504, 561–564 {21}

Wong I, Knutson HA, Cowan NB, et al., 2014, Constraints on the atmospheric circulation and variability of the eccentric hot Jupiter XO–3 b. *ApJ*, 794, 134 {48}

Wong I, Knutson HA, Kataria T, et al., 2016, 3.6 and 4.5 μm Spitzer phase curves of the highly irradiated hot Jupiters WASP–19 b and HAT–P–7 b. *ApJ*, 823, 122 {24, 44}

Wong I, Knutson HA, Lewis NK, et al., 2015, 3.6 and 4.5 μm phase curves of the highly irradiated eccentric hot Jupiter WASP–14 b. *ApJ*, 811, 122 {43}

Wood PL, Maxted PFL, Smalley B, et al., 2011, Transmission spectroscopy of the sodium D doublet in WASP–17 b with the VLT. *MNRAS*, 412, 2376–2382 {43}

Wordsworth RD, Forget F, Selsis F, et al., 2010, Is GJ 581 d habitable? Some constraints from radiative-convective climate modeling. *A&A*, 522, A22 {5}

—, 2011, GJ 581 d is the first discovered terrestrial-mass exoplanet in the habitable zone. *ApJ*, 733, L48 {5}

Worth R, Sigurdsson S, 2016, Effects of Proxima Cen on planet formation in α Cen. *ApJ*, 831, 170 {2}

Wright DJ, Chené AN, De Cat P, et al., 2011a, Determination of the inclination of the multi-planet hosting star HR 8799 using asteroseismology. *ApJ*, 728, L20 {53}

Wright DJ, Wittenmyer RA, Tinney CG, et al., 2016a, Three planets orbiting Wolf 1061. *ApJ*, 817, L20 {4}

Wright JT, 2017, On distinguishing interstellar objects like Oumuamua from products of solar system scattering. *RNAAS*, 1, 38 {54}

—, 2018, A reassessment of families of solutions to the puzzle of Boyajian's star. *RNAAS*, 2, 16 {36}

Wright JT, Cartier KMS, Zhao M, et al., 2016b, The Ĝ infrared search for extra-

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terrestrial civilisations with large energy supplies. IV. The signatures and information content of transiting megastructures. *ApJ*, 816, 17 {23, 36}
Wright JT, Fischer DA, Ford EB, et al., 2009a, A third giant planet orbiting HIP 14810. *ApJ*, 699, L97–L101 {13}
Wright JT, Marcy GW, Butler RP, et al., 2008, The Jupiter twin HD 154345 b. *ApJ*, 683, L63–L66 {11}
Wright JT, Marcy GW, Fischer DA, et al., 2007, Four new exoplanets and hints of additional substellar companions to exoplanet host stars. *ApJ*, 657, 533–545 {7, 8, 11, 12, 13}
Wright JT, Roy A, Mahadevan S, et al., 2013, MARVELS–1: a face-on double-lined binary star masquerading as a resonant planetary system and consideration of rare false positives in radial velocity planet searches. *ApJ*, 770, 119 {14}
Wright JT, Sigurdsson S, 2016, Families of plausible solutions to the puzzle of Boyajian's star. *ApJ*, 829, L3 {36}
Wright JT, Upadhyay S, Marcy GW, et al., 2009b, Ten new and updated multi-planet systems and a survey of exoplanetary systems. *ApJ*, 693, 1084–1099 {7, 12}
Wright JT, Veras D, Ford EB, et al., 2011b, The California Planet Survey. III. A possible 2:1 resonance in the exoplanetary triple system HD 37124. *ApJ*, 730, 93 {7}
Wu DH, Wang S, Zhou JL, et al., 2018, TTV-determined masses for warm Jupiters and their close planetary companions. *AJ*, 156, 96 {29, 32, 33, 34, 35}
Wu Y, Goldreich P, 2002, Tidal evolution of the planetary system around HD 83443. *ApJ*, 564, 1024–1027 {9}
Wu Y, Murray N, 2003, Planet migration and binary companions: the case of HD 80606 b. *ApJ*, 589, 605–614 {17}
Wu YL, Close LM, Bailey VP, et al., 2016, Magellan AO System z', Y_S, and L' observations of the very wide 650 au HD 106906 planetary system. *ApJ*, 823, 24 {53}
Wu YL, Sheehan PD, Males JR, et al., 2017, An ALMA and MagAO study of the substellar companion GQ Lup b. *ApJ*, 836, 223 {52}
Wurm G, Trieloff M, Rauer H, 2013, Photophoretic separation of metals and silicates: the formation of Mercury-like planets and metal depletion in chondrites. *ApJ*, 769, 78 {22, 27}
Wyatt MC, Dent WRF, 2002, Collisional processes in extrasolar planetesimal disks: dust clumps in Fomalhaut's debris disk. *MNRAS*, 334, 589–607 {51}
Wyatt MC, van Lieshout R, Kennedy GM, et al., 2018, Modeling the KIC–8462852 light curves: compatibility of the dips and secular dimming with an exocomet interpretation. *MNRAS*, 473, 5286–5307 {36}
Wyttenbach A, Ehrenreich D, Lovis C, et al., 2015, Spectrally resolved detection of sodium in the atmosphere of HD 189733 b with the HARPS spectrograph. *A&A*, 577, A62 {19}
Wyttenbach A, Lovis C, Ehrenreich D, et al., 2017, Hot exoplanet atmospheres resolved with transit spectroscopy (HEARTS). I. Detection of hot neutral sodium at high altitudes on WASP–49 b. *A&A*, 602, A36 {45}
Xie JW, 2013, Transit timing variation of near-resonance planetary pairs. I. Confirmation of 12 multiple planet systems. *ApJS*, 208, 22 {31}
—, 2014, Transit timing variation of near-resonance planetary pairs. II. Confirmation of 30 planets in 15 multiple-planet systems. *ApJS*, 210, 25 {31, 32, 33, 34}
Xie JW, Brandeker A, Wu Y, 2013, On the unusual gas composition in the β Pic debris disk. *ApJ*, 762, 114 {52}
Xie JW, Payne MJ, Thébault P, et al., 2010a, From dust to planetesimal: the snowball phase? *ApJ*, 724, 1153–1164 {2}
Xie JW, Zhou JL, Ge J, 2010b, Planetesimal accretion in binaries: could planets form around α Cen B? *ApJ*, 708, 1566–1578 {2}
Yan F, Henning T, 2018, An extended hydrogen envelope of the extremely hot giant exoplanet KELT–9 b. *Nature Astronomy*, 2, 714–718 {27}
Yan F, Pallé E, Fosbury RAE, et al., 2017, Effect of the stellar absorption line centre-to-limb variation on exoplanet transmission spectrum observations. *A&A*, 603, A73 {19, 21}
Ye QZ, Zhang Q, Kelley MSP, et al., 2017, Oumuamua is hot: imaging, spectroscopy, and search of meteor activity. *ApJ*, 851, L5 {54}
Yeager KE, Eberle J, Cuntz M, 2011, On the ejection of Earth-mass planets from the habitable zones of the solar twins HD 20782 and HD 188015. *Int. J. Astrobiol.*, 10, 1–13 {7, 12}
Yee JC, Shvartzvald Y, Gal-Yam A, et al., 2012, MOA–2011–BLG–293L b: a test of pure survey microlensing planet detections. *ApJ*, 755, 102 {49}
Yee SW, Petigura EA, Fulton BJ, et al., 2018, HAT–P–11: discovery of a second planet and a clue to understanding exoplanet obliquities. *AJ*, 155, 255 {24}
Yılmaz M, Sato B, Bikmaev I, et al., 2017, A Jupiter-mass planet around the K0 giant HD 208897. *A&A*, 608, A14 {13}
Yoneda M, Berdyugina S, Kuhn J, 2017, Space weathering of super-Earths: model simulations of exospheric sodium escape from 61 Vir b. *AJ*, 154, 139 {4}
Yu L, Donati JF, Hébrard EM, et al., 2017, A hot Jupiter around the very active weak-line T Tauri star TAP 26. *MNRAS*, 467, 1342–1359 {14}
Yu L, Winn JN, Gillon M, et al., 2015, Tests of the planetary hypothesis for PTFO 8–8695 b. *ApJ*, 812, 48 {39}
Yu L, Zhou G, Rodriguez JE, et al., 2018, EPIC 246851721 b: a tropical Jupiter transiting a rapidly rotating star in a well-aligned orbit. *AJ*, 156, 250 {38}
Yurchenko SN, Tennyson J, Bailey J, et al., 2014, Spectrum of hot methane in astronomical objects using a comprehensive computed line list. *Proc. Nat. Acad. Sci.*, 111, 9379–9383 {19}
Zahnle KJ, Catling DC, 2017, The cosmic shoreline: the evidence that escape determines which planets have atmospheres, and what this may mean for Proxima Cen b. *ApJ*, 843, 122 {2}
Zahnle KJ, Marley MS, Morley CV, et al., 2016, Photolytic hazes in the atmosphere of 51 Eri b. *ApJ*, 824, 137 {51}
Zalucha AM, Michaels TI, Madhusudhan N, 2013, An investigation of a super-Earth exoplanet with a greenhouse-gas atmosphere using a general circulation model. *Icarus*, 226, 1743–1761 {23}
Zanazzi JJ, Lai D, 2017, Extended transiting disks and rings around planets and brown dwarfs: theoretical constraints. *MNRAS*, 464, 3945–3954 {41}
Zang W, Hwang KH, Kim HW, et al., 2018, KMT–2016–BLG–1397 b: KMTNET-only discovery of a microlens giant planet. *AJ*, 156, 236 {50}
Zapata LA, Ho PTP, Rodríguez LF, 2018, A submillimeter background galaxy projected on the debris disk of HD 95086 revealed by ALMA. *MNRAS*, 476, 5382–5387 {52}
Zellem RT, Griffith CA, Deroo P, et al., 2014a, The ground-based H-, K-, and L-band absolute emission spectra of HD 209458 b. *ApJ*, 796, 48 {20}
Zellem RT, Griffith CA, Pearson KA, et al., 2015, XO–2 b: a hot Jupiter with a variable host star that potentially affects its measured transit depth. *ApJ*, 810, 11 {48}
Zellem RT, Lewis NK, Knutson HA, et al., 2014b, The 4.5 μm full-orbit phase curve of the hot Jupiter HD 209458 b. *ApJ*, 790, 53 {20}
Zeng L, Jacobsen SB, 2017, A simple analytical model for rocky planet interiors. *ApJ*, 837, 164 {23, 28, 31}
Zeng L, Sasselov DD, Jacobsen SB, 2016, Mass–radius relation for rocky planets based on PREM. *ApJ*, 819, 127 {31}
Zhang J, Kempton EMR, Rauscher E, 2017, Constraining hot Jupiter atmospheric structure and dynamics through Doppler-shifted emission spectra. *ApJ*, 851, 84 {19, 21, 45}
Zhang JC, Cao C, Song N, et al., 2011, Observation and research of the transits of extrasolar planets. *Chinese Astronomy and Astrophysics*, 35, 409–420 {24, 40, 41, 48}
Zhang K, Hamilton DP, Matsumura S, 2013, Secular orbital evolution of compact planet systems. *ApJ*, 778, 6 {25}
Zhang M, Knutson HA, Kataria T, et al., 2018a, Phase curves of WASP–33 b and HD 149026 b and a new correlation between phase curve offset and irradiation temperature. *AJ*, 155, 83 {18, 45}
Zhang N, Ji J, Sun Z, 2010, A hybrid mechanism forming a 2:1 librating-circulating resonant configuration in the planetary system. *MNRAS*, 405, 2016–2022 {9, 10}
Zhang Q, 2018, Prospects for backtracing Oumuamua and future interstellar objects. *ApJ*, 852, L13 {55}
Zhang XD, Zhou JL, 2006, The formation and stability of the configuration of the planetary system HD 12661. *Chinese Astronomy and Astrophysics*, 30, 420–430 {7}
Zhang Z, Zhou Y, Rackham BV, et al., 2018b, The near-infrared transmission spectra of TRAPPIST–1 planets b–g and stellar contamination in multi-epoch transit spectra. *AJ*, 156, 178 {40}
Zhao L, Fischer DA, Brewer J, et al., 2018a, Planet detectability in the α Cen system. *AJ*, 155, 24 {2}
Zhao M, Milburn J, Barman T, et al., 2012a, Detection of Ks-band thermal emission from WASP–3 b. *ApJ*, 748, L8 {42}
Zhao M, Monnier JD, Swain MR, et al., 2012b, Ground-based detections of thermal emission from CoRoT–1 b and WASP–12 b. *ApJ*, 744, 122 {21, 43}
Zhao M, O'Rourke JG, Wright JT, et al., 2014, Characterisation of the atmosphere of the hot Jupiter HAT–P–32A b and the M-dwarf companion HAT–P–32B. *ApJ*, 796, 115 {25}
Zhao S, Jiang-hui J, Yao D, 2018b, Photometric follow-up transit observations of WASP–43 b and TrES–3 b and a study on their transit timing variations. *Chin. Astron. Astrophys.*, 42, 101–128 {41, 45}
Zheng X, Lin DNC, Kouwenhoven MBN, et al., 2017, Clearing residual planetesimals by sweeping secular resonances in transitional disks: a lone-planet scenario for the wide gaps in debris disks around Vega and Fomalhaut. *ApJ*, 849, 98 {51}
Zhou G, Bakos GÁ, Hartman JD, et al., 2017, HAT–P–67 b: an extremely low density Saturn transiting an F-subgiant confirmed via Doppler tomography. *AJ*, 153, 211 {26}
Zhou G, Bayliss D, Hartman JD, et al., 2015a, A high obliquity orbit for the hot- upiter HATS–14 b transiting a 5400 K star. *ApJ*, 814, L16 {26}
Zhou G, Bayliss D, Penev K, et al., 2014a, HATS–5 b: a transiting hot Saturn from the HAT–South survey. *AJ*, 147, 144 {26}
Zhou G, Bayliss DDR, 2012, Detection of sodium absorption in WASP–17 b with Magellan. *MNRAS*, 426, 2483–2488 {43}
Zhou G, Bayliss DDR, Kedziora-Chudczer L, et al., 2014b, K_S-band secondary eclipses of WASP–19 b and WASP–43 b with the Anglo–Australian Telescope. *MNRAS*, 445, 2746–2757 {44, 45}
—, 2015b, Secondary eclipse observations for seven hot-Jupiters from the Anglo–Australian Telescope. *MNRAS*, 454, 3002–3019 {41, 42, 44, 45, 46}
Zhou G, Kedziora-Chudczer L, Bayliss DDR, et al., 2013, Examining the broad-band emission spectrum of WASP–19 b: a new z-band eclipse detection. *ApJ*, 774, 118 {44}
Zhou G, Latham DW, Bieryla A, et al., 2016a, Spin–orbit alignment for KELT–7 b and HAT–P–56 b via Doppler tomography with TRES. *MNRAS*, 460, 3376–3383 {26, 27}
Zhou G, Rodriguez JE, Collins KA, et al., 2016b, KELT–17 b: a hot-Jupiter transiting an A-star in a misaligned orbit detected with Doppler tomography. *AJ*, 152, 136 {27}
Zhou G, Rodriguez JE, Vanderburg A, et al., 2018, The warm Neptunes around HD 106315 have low stellar obliquities. *AJ*, 156, 93 {38}
Zhou Y, Apai D, Schneider GH, et al., 2016c, Discovery of rotational modulations in the planetary-mass companion 2M J1207 b: intermediate rotation period and heterogeneous clouds in a low gravity atmosphere. *ApJ*, 818, 176 {54}
Zhou Y, Herczeg GJ, Kraus AL, et al., 2014c, Accretion onto planetary mass companions of low-mass young stars. *ApJ*, 783, L17 {52, 54}
Zhu W, Gould A, Beichman C, et al., 2015, Planet sensitivity from combined ground- and space-based microlensing observations. *ApJ*, 814, 129 {50}
Zhu W, Huang CX, Zhou G, et al., 2014, Constraining the oblateness of Kepler planets. *ApJ*, 796, 67 {24, 29}
Zhu Z, Hartmann L, Nelson RP, et al., 2012, Challenges in forming planets by gravitational instability: disk irradiation and clump migration, accretion, and tidal destruction. *ApJ*, 746, 110 {28}
Zinzi A, Turrini D, 2017, Anti-correlation between multiplicity and orbital properties in exoplanetary systems as a possible record of their dynamical histories. *A&A*, 605, L4 {40}
Zollinger R, Armstrong JC, 2009, Additional planets in the habitable zone of GJ 581? *A&A*, 497, 583–587 {5}

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Zoppetti FA, Beaugé C, Leiva AM, 2018, Resonant capture and tidal evolution in circumbinary systems: testing the case of Kepler–38. *MNRAS*, 477, 5301–5311 {29}

Zucker S, Mazeh T, 2000, Analysis of the Hipparcos measurements of HD 10697: a mass determination of a brown dwarf secondary. *ApJ*, 531, L67–L69 {7}

Zucker S, Mazeh T, Santos NC, et al., 2003, Multi-order TODCOR: application to observations taken with the CORALIE echelle spectrograph. I. The system HD 41004. *A&A*, 404, 775–781 {8}

—, 2004, Multi-order TODCOR: application to observations taken with the CORALIE echelle spectrograph. II. A planet in the system HD 41004. *A&A*, 426, 695–698 {8}

Zucker S, Naef D, Latham DW, et al., 2002, A planet candidate in the stellar triple system HD 178911. *ApJ*, 568, 363–368 {12}

Zuluaga JI, Bustamante S, 2018, Magnetic properties of Proxima Cen b analogues. *Planet. Space Sci.*, 152, 55–67 {2}

Zuluaga JI, Bustamante S, Cuartas PA, et al., 2013, The influence of thermal evolution in the magnetic protection of terrestrial planets. *ApJ*, 770, 23 {5, 8}

Zuluaga JI, Mason PA, Cuartas-Restrepo PA, 2016, Constraining the radiation and plasma environment of the Kepler circumbinary habitable-zone planets. *ApJ*, 818, 160 {28, 30, 35}

Zuluaga JI, Sánchez-Hernández O, Sucerquia M, et al., 2018, A general method for assessing the origin of interstellar small bodies: the case of Oumuamua. *AJ*, 155, 236 {55}

Zurlo A, Gratton R, Mesa D, et al., 2018, The gravitational mass of Proxima Cen measured with VLT–SPHERE from a microlensing event. *MNRAS*, 480, 236–244 {2}

Zurlo A, Vigan A, Galicher R, et al., 2016, First light of the VLT planet finder SPHERE. III. New spectrophotometry and astrometry of the HR 8799 exoplanetary system. *A&A*, 587, A57 {53}

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