Errata in "Galaxy Formation and Evolution" (Mo, van den Bosch and White)

This list includes all errors found so far. The errors are divided into two categories, "Significant errors" (serious or misleading errors in equations and in the text), and "Innocuous errors". Some of the errors may have already been corrected in the newer reprints of the book.

Significant errors

- P14, line 9 from bottom: $M_{\rm sat}/M_{\rm main} \to M_{\rm main}/M_{\rm sat}$ (Credit P. Hall)
- P82, Eq.(2.46): insert $\frac{1}{M}$ in front of the summation (Credit: G. Blanc)
- P104, line 14: $\mathrm{d}l^2 = \mathrm{d}w^2 - \mathrm{d}x^2 - \mathrm{d}y^2 - \mathrm{d}z^2 \to \mathrm{d}l^2 = \mathrm{d}x^2 + \mathrm{d}y^2 + \mathrm{d}z^2 - \mathrm{d}w^2$
- P104, line 15: $x^2 + y^2 + z^2 - w^2 = a^2(t) \to w^2 - x^2 - y^2 - z^2 = a^2(t)$
- P142, Eq.(3.210): $16.4\eta \to 16.4$
- P171, line 1 in §4.1.5: $\xi \to \xi^{-1}$ (Credit: L. Barnes)
- P205, Eq.(4.266): $\delta_{\rm G}^2 \to \delta_{\rm G}$ (Credit: H. Li)
- P207, Eq.(4.272): $\frac{3}{(kR)^2} \to \frac{3}{(kR)^3}$ (Credit: Z. Butcher)
- P243, Eq.(5.162), the third variable in the second B: $\chi \to 1-\chi$ (Credit: A. Benitez Llambay)
- P244, Eq.(5.167): $\tilde{\boldsymbol{\Phi}} \to \tilde{\boldsymbol{\Psi}}$ (Credit: A. Benitez Llambay)
- P264, Eq. (6.14): add $-\langle\delta_1\rangle\langle\delta_2\rangle\langle\delta_3\delta_4\rangle$ (six terms) on the right hand side of the first line
- P269, Eq. (6.44): replace by

$$\kappa = \mu_4 - 3\kappa_2^2 - 4\kappa_1\kappa_3 - 6\kappa_1^2\kappa_2 - \kappa_1^4$$

- P294, Fig. 6.6: $D_{\rm L} \to d_{\rm L}$; $D_{\rm S} \to d_{\rm S}$; $D_{\rm LS} \to d_{\rm LS}$
- P294, caption of Fig. 6.6: $D_{\rm L} \to d_{\rm L}$; $D_{\rm S} \to d_{\rm S}$; $D_{\rm LS} \to d_{\rm LS}$; erase '*comoving*' in line 3; erase the whole last sentence
- P295: Replace Eq. (6.196) by

$$\Phi(\mathbf{r}_\perp, z) = -\frac{GM}{(r_\perp^2 + z^2)^{1/2}} \qquad (\mathbf{r} = a\mathbf{x}),$$

- P295: Replace Eq. (6.197) by

$$\nabla_{\mathbf{r}_\perp}\Phi(\mathbf{r}_\perp, z) = \frac{GM\mathbf{r}_\perp}{(r_\perp^2 + z^2)^{3/2}} \approx \frac{GM\mathbf{b}}{(b^2 + z^2)^{3/2}}.$$

- P295: Replace Eq. (6.200) by

$$\vec{\alpha} = \frac{D_{\rm LS}}{D_{\rm S}}\vec{\alpha}_{\rm d} = \frac{d_{\rm LS}}{d_{\rm S}}\vec{\alpha}_{\rm d},$$

- P295: Replace Eq. (6.201) by

$$\vec{\alpha}_{\rm d} \equiv \frac{2}{c^2}\int \nabla_\perp\Phi\,\mathrm{d}\chi = \frac{2}{c^2}\int \nabla_{\mathbf{r}_\perp}\Phi(b,z)\,\mathrm{d}z$$

- P296, line 1 below Eq.(6.202): angular-diameter distances $\to$ radial coordinates (angular-diameter distances in comoving units)
- P296, Eq. (6.203): $D \to d$
- P296, line 3 below Eq. (6.205): $D_{\rm LS} \to d_{\rm LS}$; $D_{\rm L} \to d_{\rm L}$
- P296, Eq. (6.206): $D \to d$
- P296, Eq. (6.209): $D \to d$
- P296, line 1 below Eq. (6.209): $D_{\rm L} \to d_{\rm L}$
- P297, Eq. (6.212): the five $\mathbf{x}$ should all be replaced by $\mathbf{r}$
- P298, Eq. (6.217): $D \to d$

- P298, Eq. (6.221): $D \to d$
- P299, Eq. (6.225): $D \to d$
- P299, line 1 below Eq. (6.225): $D_{\rm L} \to d_{\rm L}$
- P299, Eq. (6.226): $D \to d$
- P299, Eq. (6.227): $D \to d$
- P299, Eq. (6.228): $D_{\rm L} \to d_{\rm L}$; $D_{\rm S} \to d_{\rm LS}$; $D_{\rm LS} \to d_{\rm S}$
- P299, Eq. (6.229): $D \to d$
- P301, Eq.(6.234): insert $\frac{1}{c^2}$ after the minus ($-$) sign in the first line; insert $\frac{1}{c^2}$ after the equal ($=$) sign in the second line
- P301, Eq.(6.235): insert $\frac{1}{c^4}$ after the equal ($=$) sign
- P352, Eq.(7.139): $\overline{\rho} \to \rho_{\rm crit}$
- P353, Eq.(7.141): $\frac{\Delta_{\rm h}}{3} \to \frac{\Delta_{\rm h}\Omega_{\rm m}}{3}$
- P386, Fig. 8.6: line 3 in caption: gas mass $\to$ total mass
- P490, below Eq.(10.133): In the special case where the star-formation rate is equal to the infall rate $[\Psi(t) = \mathscr{A}(t)] \to$ In the special case where the infall rate is equal to the rate at which mass is locked up in stars $[\mathscr{A}(t) = \Psi(t) - \mathscr{E}(t)]$ (Credit P. Hall)
- P499, Eq.(11.30): get rid of the minus sign following the equal sign (Credit: A. Battisti)
- P580, line 1 above Eq (13.13):
  $\upsilon_{\rm los} = \upsilon_r \cos\alpha - \upsilon_\vartheta \sin\alpha \to \upsilon_{\rm los} = \upsilon_r \sin\alpha - \upsilon_\vartheta \cos\alpha$ (Credit: P. Hall)
- P659, Eq.(15.16): $\frac{{\rm d}^2 N}{{\rm d}md} \to \frac{{\rm d}^2 N}{{\rm d}m\,{\rm d}z}$
- P680, Eq.(15.80): $\tilde{u}(k|m) \to \tilde{u}(k|M)$
- P681, Eq.(15.85), first line: $\tilde{u}(k|m) \to \tilde{u}(k|M)$
- P755, line 1 below Eq.(B1.39): $\hbar_p^2/4\pi^2 m_{\rm e} q_{\rm e}^2 \to \hbar_{\rm P}^2/m_{\rm e} q_{\rm e}^2$
- P756, line 1 below Eq.(B1.47): $g_n/g_{n+1} \to g_n$
- P769, Eq.(C1.21): The power index $-1/2$ should be $1/2$ (Credit: M. Abadi)

Innocuous errors

- Title page: *Max Planch* $\to$ *Max Planck*
- P10, Fig. 1.2: Add an arrow from the box labeled cold gas to the line labeled AGN accretion
- P24, line 12 from bottom: a homogeneous an inhomogeneous
- P46, lines 5 and 6 in **(c) Colors**: Ellipticals also desplay color gradient. In general, the outskirt has a bluer color than the central region. $\to$ Ellipticals also desplay color gradients. In general, the outskirts have bluer colors than the central regions.
- P47, line 2 in caption of Fig. 2.16: $\mathscr{M}_B \leq 20.5 \to \mathscr{M}_B \leq -20.5$ (Credit: W. Luo)
- P94, line 1 below Eq.(2.59): $K = H_0^2 a_0^2(\Omega_0 - 1) \to K = H_0^2 a_0^2(\Omega_0 - 1)/c^2$ (Credit: L. Graziani)
- P192, line 5 below Eq.(4.209): Eq.(4.205) $\to$ Eq.(4.206)
- P216, line 3 from bottom: $3M/4\pi\overline{\rho}(t) \to [3M/4\pi\overline{\rho}(t)]^{1/3}$
- P249, line 11: $(df/dt = 0) \to (df/dt = 0)$?
- P330, Eq.(7.57): $P(\Delta\delta_{\rm s}|\delta_{\rm s}) \to P(\Delta\delta_{\rm s}|\delta_{\rm s})\,{\rm d}(\Delta\delta_{\rm s})$
- P386, line 4 of the caption to Fig.8.6: $f_{\rm gas} = 0.15 \to f_{\rm gas} = 0.15,$
- P392, line 3 below Eq.(8.132): Eds $\to$ EdS
- P403, line 1 above Eq.(8.192): by $M_{\rm sp}$ and $M_{\rm sp}$ $\to$ by $M_{\rm sp}$ and $\upsilon_{\rm sp}$
- P412, line 2 below Eq.(8.221): in detail is $\to$ in detail in
- P414, line 15 from bottom: In many some clusters $\to$ In many clusters
- P470, line 6 from bottom: $R_{\rm s} \to r_{\rm s}$
- P571, line 1: cannabalism $\to$ cannibalism
- P647, line 4 in §14.3.3: $10^{10}{\rm M}_{.} \to 10^{10}\,{\rm M}_\odot$

- P741, Eq. (A1.2) and the line above it: $\mathrm{d}s^2 \rightarrow \mathrm{d}l^2$
- P767, line 16 from bottom: **(c) P^{3}M** $\rightarrow$ **(d) P^{3}M**
- P776, below the line Planck constant add a new item:
  Reduced Planck constant $\hbar_{\mathrm{P}} = h_{\mathrm{P}}/2\pi$
- P776, Electron charge: $e \rightarrow q_{\mathrm{e}}$
- P779, line 13 from bottom, reference Blandford R.D., Payne D.G. 1982, MNRAS, 199, 883 listed twice