

COLORPLATE XIX. Photoelectron spectroscopy is used to study calcium fluoride bonding to a silicon(111) substrate. The measured electron energy spectrum is shown for a monolayer of CaF_2 on Si(111), for a thin film of about 1.1 nm thickness, and for a relatively thick film of about 5 nm. (Courtesy of M. Olmsted, U. Washington.) See text, p. 382.



COLORPLATE XX. Spatially resolved photoemission from a composite $AI-Si-SiO_2$ sample illuminated with zone plate focused undulator radiation at Brookhaven National Laboratory. The incident photon energy is 690 eV, and the electron spectrometer pass-band is set for kinetic energies appropriate to the various binding energies of interest. (Courtesy of H. Ade et al., SUNY Stony Brook and North Carolina State University.) See text, p. 383.



COLORPLATE XXI. Spatially resolved scanning photoemission image of a 100 mesh Cu grid on a gold foil, with localized spectra from Cu and gold regions. The incident photon energy is 420 eV. The image contrast is primarily due to the Cu 3p core-level intensity, but the shadows and enhancements are due to topographic effects of imaging with a small ($\sim 0.2 \mu$ m) beam spot. (From T. Warwick, J. Denlinger, E. Rotenberg, and colleagues, Lawrence Berkeley National Laboratory.) See text, p. 383.