Fig. 1. —A galaxy in the field of the radio galaxy 4C 23.56, at a redshift of 2.483, observed with the Keck II laser-guide-star adaptive-optics system. The upper-left panel shows the observed image. The upper-right panel shows the best-fit Sersic model produced by the model-fitting software $Galfit$ (Peng et al. 2002, *Astronomical Journal*, **124**, 266). The lower-left panel shows the difference between the original image and the model. The model in the upper-right panel includes the broadening of the image by the diffraction effect of the finite aperture of the telescope as well as residual uncorrected atmospheric distortion. The lower-right panel shows the model without such broadening and gives the best impression of the true over-all shape of the galaxy. The shape is most easily interpreted as a disk moderately highly inclined to our line-of-sight, and the detailed analysis of the light profile favors this interpretation. The galaxy light appears to be dominated by stars with an age of around 2 billion years or more, at a time when the Universe itself was only about 2.7 billion years old.
Fig. 2. —A galaxy in the field of the quasar 4C 29.28, at a redshift of 2.617, observed with the Keck II laser-guide-star adaptive-optics system. The upper-left panel shows the observed image. The upper-right panel shows the best-fit Sersic model produced by the model-fitting software Galfit (Peng et al. 2002, *Astronomical Journal*, 124, 266). The lower-left panel shows the difference between the original image and the model. The model in the upper-right panel includes the broadening of the image by the diffraction effect of the finite aperture of the telescope as well as residual uncorrected atmospheric distortion. The lower-right panel shows the model without such broadening and gives the best impression of the true over-all shape of the galaxy. The shape is most easily interpreted as a nearly edge-on disk, and the detailed analysis of the light profile favors this interpretation. The galaxy light appears to be dominated by stars with an age of around 2 billion years or more, at a time when the Universe itself was only about 2.7 billion years old.
Fig. 3.—A remarkable group of luminous galaxies near the radio galaxy TXS 2332+154, which has been identified with the galaxy at the upper right corner of the group and has a redshift of 2.48. The image obtained with the Keck II laser-guide-star adaptive-optics system is shown in the upper-left panel. The best-fit models for the 5 galaxies, produced by the model-fitting software Galfit (Peng et al. 2002, Astronomical Journal, 124, 266), is shown in the upper-right panel. Note that the impressive tidal tail from the two interacting galaxies at the lower right has been excluded from the fit. The lower-left panel shows the difference between the original image and the model fits. These model necessarily include the broadening of the image by the diffraction effect of the finite aperture of the telescope as well as residual uncorrected atmospheric distortion. The lower-right panel shows the model without such broadening and gives the best impression of the true over-all shapes of the galaxies. All of the galaxies except the radio galaxy (upper right) show fairly old stellar populations, with apparent ages ranging from around 1.4 billion years (for the 2 galaxies on the left) to around 800 million years (for the average of the interacting pair) and all have redshifts close to that of the radio source. Of special interest is the galaxy at the lower left corner of this group: it appears to be a galaxy more massive than our own Milky Way, yet it packs most of its light within a radius of 1500 light years (450 parsecs).