

To solve the galaxy population synthesis problem with keeping out of ISAs, at least rough metallicities of galaxies should be calibrated with observable quantities. Several possibilities of determining extragalactic metallicities, although not confirmed, are discussed.

A Surface Photometry of Barred Galaxies: Analysis of Decomposition Parameters of Disk and Bulge

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A detailed V-band surface photometry of barred galaxies has been made to derive luminosity profiles of 39 barred galaxies, of which morphological types range from T=3 to 7. From this we derived decomposition parameters which represent global structure of the galaxies by applying the decomposition scheme in which bulges, disks, and bars are assumed to be the main distinct components of barred galaxies. The luminosities in minor components such as lenses, rings, and arms can be accounted for from a comparison of the observed two-dimensional luminosity distributions and the decomposition models.

The constancy of disk central brightness and the relationships between disk central brightness and disk scale length are reexamined from the present photometry and previous investigations. An investigation of the distributions of bulge size and bulge-to-disk ratios along the Hubble sequence shows that distribution of bulge-to-disk ratios of barred galaxies is similar to that of normal disk galaxies. This may imply that the origin of the SB0 galaxies is not much different from that of S0 galaxies.

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〈 研 究 論 文 〉

Surface Photometry of Barred Galaxies: Luminosity Distribution of Bars

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Using the Kiso V-band plates, a detailed two-dimensional surface photometry was made for 38