측광학적인 방법을 이용한 외부 은하의 광도 곡선 연구
THE LUMINOSITY OF GALAXIES WITH PHOTOMETRIC METHOD

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Abstract

It is important for understanding fundamental structure of galaxies to investigate galaxies morphologically, since, generally, normal galaxies have critical luminosity profile. Therefore, luminosity profile is necessary for understanding structure, origin and evolution of galaxies as well as offering a judgement standard of classification of galaxies.

In this research, we presented RI and RGB CCD surface photometry over 10.8' area of the spiral galaxy, NGC2683; and the elliptical galaxies, M105 and NGC1129, with 14″ CGE-1400 Schmidt-Cassegrain Telescope at PNU(Pusan National University) Observatory and 200mm Takahashi FCT-200 Telescope at KSA(Korea Science Academy) Observatory. We ran IRAF/SPIRAL for reduction. To analyze quantitatively, we analyzed the observed luminosity profile into bugle component following r1/4 law and exponential disk. We obtained isophotal maps, and surface brightness profiles of NGC 2683, M105, and NGC 1129 proceeding with IRAF to reduce Bias, Dark and Flat fielding image and applying ISOPHOT task on SPIRAL program. We found the ellipticities and types of each galaxy. The ellipticity of M105 was 0.1 and that of NGC1129 was 0.2. In addition, we classified the types of each galaxy; NGC2683 was disk-dominant and edge-on galaxy, and M105 was E1 type, and NGC1129 was E2 type. Through this research, we understood fundamental structure of galaxy by classifying three galaxies morphologically.