그리고, 처음으로, 이들 천이선으로부터 적색이동과 청색이동된 성분을 분리하여 이들 성분이 2′ N 위치에 대하여 대칭적으로 분포하며 이들 각 성분의 지름은 약 4-5pc 이고 무게는 약 $10^4 M_\odot$임을 알았다. 이 적색이동과 청색이동을 보이는 성분은 2′ N점을 향하여 약 30km s^{-1}로 접근하고 있다. 자유낙하 타임스케일은 약 10^5년이며 막대한 에너지를 감안 할 때 다음 세대의 별탄생이 예상되고 있다. 이러한 활동성이 이 지역에 특정 분자의 양이 증가되는 특이 화학현상을 일으키는 것으로 추측된다.

A COMPARISON OF THE INTRINSIC SHAPES OF TWO DIFFERENT TYPES OF DWARF GALAXIES BLUE COMPACT DWARFS AND DWARF ELLIPTICALS

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We measure the apparent shapes for a sample of 62 blue compact dwarf galaxies (BCDs), and compare them with the apparent shapes for a sample of 80 dwarf elliptical galaxies (dEs). The BCDs are flatter, on average, than the dEs, but the difference is only marginally significant. We then use both non-parametric and parametric techniques to determine possible distributions of apparent shapes for the BCDs. The hypothesis that BCDs are oblate spheroids can be ruled out a high confidence level (> 99%), but the hypothesis that they are prolate spheroids cannot be excluded. The apparent shapes of BCDs are totally consistent with the hypothesis that they are triaxial ellipsoids. If the intrinsic axis ratios, β and γ, are distributed according to a Gaussian with means β_0 and γ_0 and standard deviation σ, we find the best-fitting distribution for BCDs has $(\beta_0, \gamma_0, \sigma) = (0.66, 0.55, 0.16)$, while that for dEs has $(\beta_0, \gamma_0, \sigma) = (0.85, 0.64, 0.24)$. Our results are consistent with the hypothesis that BCDs have a close evolutionary relation with dEs.

SECULAR EVOLUTION AND DISK LUMINOSITY PROFILES

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Secular evolutions are thought to be prevalent in disk galaxies, especially in the galaxies with bars or ovals. Redistribution of disk mass by barlike potentials changes galaxy

morphology significantly in the Hubble time. We analyzed the luminosity profiles of 104 bright barred galaxies to examine the frequency of occurrence of the type II disk (Freeman 1970) which is thought to be the result of secular evolution driven by the bar (Norman and Sellwood 1996). Our analysis of the luminosity profiles along the major axes of barred galaxies shows that about 70 % of the present sample seems to have the type II disks with a high tendency of preferential occurrence of type II disks in the late type galaxies. The analysis of the de Jong's near IR and optical photometry of 86 face-on disk galaxies shows the same results for the barred galaxies. However, the ordinary spiral galaxies (SA) in the de Jong's sample have only 30 % of type II disks. The present study strongly suggests that the secular evolutions in disk galaxies can be inferred from the characteristics of the luminosity profiles of the galaxies.

ON THE ULTRAVIOLET RADIAL COLOR GRADIENT IN ELLIPTICAL GALAXIES

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Far UV color gradients within early-type galaxies have been observed by the Ultraviolet Imaging Telescope during the Astro-1 mission. We investigated probable effects produced by age and metalicity gradients within elliptical galaxies, which might give plausible explanation for galaxy formation such as inside-out history. We use most recent Yale Isochrones and HB tracks in the construction of our population synthesis model.

A TEST OF THE INTRACLUSTER GLOBULAR CLUSTER MODEL

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There are known to be several giant elliptical galaxies with high specific frequencies of globular clusters, which possess about three or more times the normal number of globular clusters for their luminosity (the specific frequency is defined as the number of globular clusters per luminosity M_V=-15 mag) of the parent galaxy). The origin of the specific frequency is considered to be the most outstanding problem in recent extragalactic globular clusters research. Two competing scenarios have been suggested to explain the origin of the high specific frequency globular cluster systems - the empirical result that such systems are