[포IM-17] High Dispersion Spectra of the Elliptical Planetary Ring Nebula NGC 6803

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NGC 6803 is an elliptical ring shape planetary nebula. We analyzed the high dispersion spectra which had been observed with the Hamilton Echelle Spectrograph attached to the 3-m Shane telescope of Lick Observatory. We also investigated the low dispersion UV spectral data obtained with the 60-cm interstellar ultraviolet explorer. Diverse excitation lines were found from neutral to quadruply ionized ions. The temperature diagnostic lines indicate relatively low electron temperatures, i.e., $T_{\epsilon} \leq$ 9500 K for most lines except for [ClIV] $\sim$ 11,500 K. In spite of its simplistic bi-laterally symmetrical elliptical shape, the nebula appears to be very complex of a hugh density range from 1300 to 80,000 cm^{-3}. A comparison of the two epoch data suggests that the density increase occurred in the high excitation line zone near the inner boundary. We derived the chemical abundances of He, C, N, O, Ne, S, Ar, Cl, and K. The chemical abundances of NGC 6803 are enhanced compared with the average Galactic planetary nebula.

Our self-consistent photo-ionization model study implies that the effective temperature of the central star is 90,000 K and its luminosity is 2400 $L_{\odot}$. The evolutionary track suggests that the progenitor of NGC 6803 was about 0.9 -- 1.0 $M_{\odot}$ star, which might be born from a metal-rich zone near the galactic disk, but now relocated into the present high Galactic latitude.

[포IM-18] A Far-UV Study in Taurus-Auriga-Perseus(TPA) Complex

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We firstly present the unified Far-UV continuum map of the Taurus-Auriga-Perseus (TPA) complex, one of the largest local associations of dark cloud located in (l, b)=([152,180], [-28, 0]), by merging both FIMS and GALEX. The FUV continuum map shows that dust extinction correlate well with the FUV around the complex. It says strong absorption in the dense Taurus cloud and Auriga cloud. Although the column density of Perseus and California cloud is similar to Taurus' and Auriga's, Perseus and California cloud do not show strong absorption in FUV because they are more distant than Taurus and Auriga cloud. We also present the dust scattering simulation based on Monte Carlo Radiative Transfer technique. Through the result of Monte-Carlo dust scattering simulation and comparing the result with FIMS-GALEX unified map we gain deeper understanding related to the spatial dust distribution of TPA region. As a preliminary result of the simulation we present the most probable front face, thickness, albedo, and asymmetry factor in this region, respectively. Through this work we can show a certain inclination of the spatial dust distribution. During this study we have developed the FUV dust scattering simulation code using Monte-Carlo method. We expect that it will be generally used to simulate dust scattering in the Galaxy.