[S01-3] GALEX Observations of Nearby Early Type Galaxies

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We present ultraviolet photometry to the FUV and NUV images of a sample of nearby early type galaxies taken from the GALEX NGS (Nearby Galaxies Survey) and AIS (All-sky Imaging Survey) observations. From the surface photometry of the FUV and NUV images, the correlation between the radial ultraviolet color gradient and the abundance gradient in the systems was investigated. We also measured central UV colors to compare with the metallicity sensitive Mg2 indices of the nearby early type galaxies. From the results, we will discuss the origin of the UV rising flux of early type galaxies in the local universe. For the Korean astronomy community, we will introduce the data archive and release of the GALEX observations.

[S01-4] GALEX Look-back Time Evolution of Far-UV Flux from Quiescent Elliptical Galaxies

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We investigate the origin of the UV upturn phenomenon in early-type galaxies and its evolution along look-back time, with GALEX (Galaxy Evolution Explorer) observations for elliptical-rich clusters. At moderate redshifts ($z < 0.2$), the dominant FUV source is predicted to be hot horizontal-branch (HB) stars and their post-HB progeny. Our first result shows that the rest-frame FUV — V color of giant elliptical galaxies gets redder by ~ 0.7 mag at the distance of Abell 2670 ($z = 0.076$), compared to NGC 1399 (Lee et al. 2005). The observed fading of UV upturn is consistent with our model predictions where the mean temperature of HB stars declines rapidly with increasing look-back time. For more detailed model comparison, we continue to collect GALEX UV data of elliptical galaxies in several Abell clusters at moderate redshifts, and here the recent results will be presented combined with the optical images and spectra from Sloan Digital Sky Survey and Canada-France-Hawaii Telescope.