[구GC-29] A WISE View of E+A Galaxies

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E+A galaxies are interpreted as post-starburst systems because of strong Balmer absorption lines but any emission lines indicating the lack of current star formation activities, thus they are one of key populations for understanding how star formation activities evolve in galaxies. We present mid-infrared (MIR) spectral energy distributions of E+A galaxies using the Wide-field Infrared Survey Explorer (WISE) preliminary released data. Furthermore, we investigate the role of environment with respect to the MIR properties of E+A galaxies.

[구GC-30] The internal UV-line-strength relations of early-type galaxies

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The unexpected rising flux of early-type galaxies at decreasing ultraviolet (UV) wavelengths is a long-standing mystery. One important observational constraint is the correlation between UV−optical colours and Mg2 line strengths found by Burstein et al. (1988). The simplest interpretation of this phenomenon is that the UV strength is related to the Mg line-strength. Under this assumption, we expect galaxies with larger Mg gradients to have larger UV colour gradients. By combining UV imaging from GALEX, optical imaging from MDM and SAURON integral-field spectroscopy, we investigate the spatially-resolved relationships between UV colours and stellar population properties of 34 early-type galaxies from the SAURON survey sample. We find that galaxies with old stellar populations show tight correlations between the FUV colours (FUV−V and FUV−NUV) and the Mg b index, Hβ index and metallicity [Z/H]. We have also derived logarithmic internal radial colour, measured line strength and derived stellar population gradients for each galaxy and again found a strong dependence of the FUV−V and FUV−NUV colour gradients on both the Mg b line-strength and the metallicity gradients. In particular, global gradients of Mg b and [Z/H] with respect to the UV colour across galaxies are consistent with their local gradients within galaxies, suggesting that the global correlations also hold locally. From a simple model based on multi-band colour fits of UV upturn and UV-weak galaxies, we have identified a plausible range of parameters that reproduces the observed radial colour profiles. In these models, the centers of elliptical galaxies, where the UV flux is strong, are enhanced in metals by roughly 60% compared to UV-weak regions.