[포GC-33] ULTRAVIOLET COLOR - COLOR RELATION OF EARLY-TYPE GALAXIES AT 0.05 <z< 0.12

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We present the ultraviolet (UV) color - color relation of early-type galaxies (ETGs) in the nearby universe (0.05 < z < 0.12) to investigate the properties of hot stellar populations responsible for the UV excess (UVX). The initial sample of ETGs is selected by the spectroscopic redshift and the morphology parameter from the SDSS DR 7, and then cross-matched with the GALEX far-UV (FUV) and near-UV (NUV) GR6 data. The cross-matched ETG sample is further classified by their emission line characteristics in the optical spectra into quiescent, star-forming, and active galactic nucleus categories. Contaminations from early-type spiral galaxies, mergers, and morphologically disturbed galaxies are removed by visual inspection. By drawing the FUV−NUV (as a measure of UV spectral shape) versus FUV−r (as a measure of UVX strength) diagram for the final sample of ~3700 quiescent ETGs, we find that the "old and dead" ETGs consist of a well-defined sequence in UV colors, the "UV red sequence," so that the stronger UVX galaxies should have a harder UV spectral shape systematically. However, the observed UV spectral slope is too steep to be reproduced by the canonical stellar population models in which the UV flux is mainly controlled by age or metallicity parameters. Moreover, 2 mag of color spreads both in FUV−NUV and FUV−r appear to be ubiquitous among any subsets in distance or luminosity. This implies that the UVX in ETGs could be driven by yet another parameter which might be even more influential than age or metallicity.

[포GC-34] Do Compact Group Galaxies favor AGN?

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We present preliminary results of a statistical study on the nuclear activity of compact group galaxies. What triggers Active Galactic Nuclei (AGN) is still a puzzling problem. One of the suggested AGN triggering mechanisms is galaxy-galaxy interaction. Many simulations have shown that gas can be supplied to the center of galaxies during galaxy encounters. In this regard, compact groups of galaxies are an ideal laboratory for studying the connection between galaxy interaction and nuclear activity because of their high densities and low velocity dispersions. We study the environmental dependence of the activity in galactic nuclei using 59 compact groups in the SDSS DR6. Using the emission line data, we classify galaxies in the compact groups. We find that 19% of the compact group galaxies are pure star-forming nuclei, 10% as transition objects, and only 7% of the galaxies in compact groups show the nuclear activity. The AGN fraction of compact group is higher than galaxy clusters, but lower than field environment. Implications of this result will be discussed.