[포GC-31] Ultraviolet Properties of Dwarf Galaxies in Fornax Cluster and Ursa Major Group

Youngdae Lee[1], Soo-Chang Rey[1], Mina Pak[1], Suk Kim[1], Eon-Chang Sung[2], Wonhyeong Yi[1], Jiwon Chung[1]

[1]Department of Astronomy and Space Science, Chungnam National University Korea,
[2]Korea Astronomy and Space Science Institute,Korea

We present ultraviolet (UV) photometric properties of dwarf galaxies in Fornax cluster and Ursa Major group in comparison with Virgo cluster using GALEX data. We construct UV color-magnitude relations (CMRs) of dwarf galaxies matching with available optical photometry and SDSS data. Majority of dwarf galaxies in Fornax cluster show sequence in UV CMRs consistent with that of dwarf elliptical (dEs) in Virgo cluster indicating similar age and metallicity properties of dEs in two clusters. The dS0 sequence in Fornax cluster is not distinct as much as that in Virgo cluster. Dwarf galaxies in outer region of the Fornax cluster show more bluer UV colors with a wide scatter in CMRs, which indicates recent star formation activity. We show that the UV colors of dwarf galaxies are related with the distribution and strength of the X-ray emission in the cluster. In contrast to the Fornax cluster, most dwarf galaxies in Ursa Major group are located in the blue cloud showing recent or on-going star formation, and few galaxies show characteristics of dEs. We discuss relationship between UV properties of dwarf galaxies and different environment of cluster.

[구GC-32] Constraining non-Gaussianity with Minkowski Functionals

Pravabati Chingangbam, Changbom Park
Korea Institute for Advanced Study

The possibility of detection of deviation from Gaussian distribution of primordial perturbations in the Cosmic Microwave Background (CMB) Radiation is very important because it can shed light on how the perturbations were created in the very early universe. We study the effect of the primordal non-Gaussianity on topological observables called Minkowski Functionals, which are functions of the temperature fluctuation field, and show that they carry distinct signatures of different types of non-Gaussianities. Then, we constrain the non-Gaussianity parameters by comparing the theoretical predictions of the Minkowski Functionals with measurements from observational data from WMAP.