[구GC-16] Quenching in massive halos at z=2

Raphael Gobat[1,2]
[1]*Korea Institute for Advanced Study,* [2]*CEA Saclay*

Although the growth of structure, as traced by galaxy clusters, has been extensively studied through cosmological simulations and large-scale surveys, the early formation and evolution of their galaxy content, and its relation to the transformation of the host environment, are still somewhat poorly understood. This is particularly true of the processes that give rise to the quiescent galaxy population between z=3 and z=2. Recent discoveries at z~2 are now bridging the gap between the well-established massive clusters of the last 9 Gyr and the high-redshift universe, and new datasets are now giving us access to statistical populations of intermediate-mass structures at this epoch. I will discuss the properties of quiescent galaxies in the most distant confirmed X-ray detected galaxy clusters, their implications for galaxy quenching at high-redshift as well as the regulation of star formation at group scales at z~2.

[구GC-17] On dark matter haloes of barred disc galaxies

Bernardo Cervantes Sodi[1], Cheng Li[2], Changbom Park[1], Lixin Wang[2] and Ye Lin[2]
[1]*School of Physics, Korea Institute for advanced Study,*
[2]*Shanghai Astronomical Observatory*

We present an extensive study of the environment of galaxies with bars in the low-redshift Uni- verse, using a volume-limited sample of over 30,000 galaxies drawn from the Sloan Digital Sky Survey, with visually-determined morphological classifications and bar identifications. We use four different statistics to quantify the environment of our galaxies: the projected two-point cross-correlation function with respect to a spectroscopic sample of reference galaxies, the background- subtracted number count of galaxies in a deep photometric sample in the vicinity of our galaxies, the overdensity of the local environment estimated at ~3 Mpc scale from the three- dimensional reconstruction of the cosmic density field of the local Universe, and the membership of our galaxies in the SDSS galaxy groups to segregate central to satellite systems. We find a weak, but significant trend for early-type galaxies with a bar to be more strongly clustered on scales from a few 100 kpc to 1 Mpc, when compared to early-type galaxies without a bar. For late-type galaxies, we find less neighbours within ~50 kpc around the barred late-types when compared to the unbarred late-types. For late-type galaxies we also detect a decrease of the bar fraction for dark matter dominated systems, and finally we find no obvious correlation between the overdensity and the fraction of barred galaxies in our sample.