

[XGC-44] High redshift clusters in ELAIS N1/N2 fields

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Galaxy clusters, the largest gravitationally bound system, are important means to place constraints on cosmological model and to study the evolution and the formation of galaxies and their large scale distribution. We will report results from our study of galaxy clusters in the European Large Area ISO Survey North1/North2(ELAIS-N1/N2) fields, covering a total of 10.8 deg^2 . We combine multiple wavelength data from IMS survey, UKIRT Infrared Deep Survey-Deep Extragalactic Survey (UKIDSS-DXS, JK bands), Spitzer Wide-area InfraRed Extragalactic survey (SWIRE, Optical-Infrared bands), and CFHT (u,g,r,i,z bands.) The photometric redshifts are derived from these datasets and are used to search for high redshift galaxy clusters at $0.8 < z < 1.5$.

[XGC-45] The Optical and IR Properties of Peculiar early-type galaxies from Stripe82 and WISE Data

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Galaxy merging plays a important role to the formation and evolution of galaxy. Early-type galaxies are believed to be formed by galaxy merging. We combined 3 color images in g,r,i band using Stripe82 image of which the surface brightness is 2 mag deeper than that of SDSS image. We classified early-type galaxies which have the merging features, the evidence of galaxy mergers through careful visual inspection. We investigated the IR properties of early-type galaxies with the merging feature using WISE data. We analyzed the star formation according to the type of galaxy. Early-type galaxies with the merging feature show the higher star formation than non-merging galaxies, but the difference is not significant. This results implies that quite a few early-type galaxies might be formed by dry merger, not wet merger.

Meanwhile, the most of ULIRGs show tidal tail, on the other hand, early-type galaxies show tidal tail including shell structure. It suggests that ULIRGs have more gas and it might be in early stage of galaxy merging, early-type galaxies might be in the late stage of galaxy merging.