dwarf ETGs. Our result suggests that blue, young normal ETGs may serve as links between (passive) normal ETGs and dwarfs. We discuss the possibility of blue, young ETGs being progenitors of dwarf ETGs.

[발표취소] Star formation in overdense region around z=1.44 radio galaxy 6CE 1100+3505

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Star formation in galaxies that lie in dense environment tends to increase as the redshift of the cluster increases. At z~1.4, the situation turns to be complex; some clusters still harbor galaxies with vigorous star formation, and others are populated with relatively old, massive galaxies. We present the result from narrow-band photometric study of the fields around the radio galaxy 6CE 1100+3505 at z=1.44. Deep H- and H-narrow band data have been obtained using CFHT/WIRCAM which cover the corresponding wavelengths for redshifted Hα. While the number of IRAC 3.6, and 4.5μm selected sources show clear excess within the central ~1Mpc area from the radio galaxy, number of galaxies identified to show excess in H-narrow band is very small. We discuss the possible integrated star formation rate in this overdense structure, and the implication to the evolution of cosmic star formation rate as a function of environment.

[포 GC-08] Discovery of high redshift galaxy clusters and superclusters and study of star formation-density relation

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Galaxy cluster is the most important laboratoriy to study the effect of environment on galaxies, one of key questions in astronomy. In the local universe, it is well known that red, passive galaxies are concentrated in the cluster core. However, it is still controversial whether the star formation-density relation at the low redshift is retained in the distant universe.

Many surveys have tried to find galaxy clusters at various epochs. However the optical dataset has limitations in finding galaxy clusters at z > 1, since the bulk of stellar emission of z > 1 galaxies is redshifted into the near-IR regime. We used the multi-wavelength data from the UKIDSS DXS (J and K bands), the SWIRE (4 IRAC bands), and the PAN-STARRS (g, r, i, z, y bands) and IMS (J band; Im et al. 2015, in preparation) in the European Large Area ISO Survey North1 (ELAIS-N1) field to search for high redshift galaxy clusters and study the properties of member galaxies.

Using the multi-wavelength data, we investigated overdensities of galaxies at 0.2 < z < 1.6 based on the photometric redshift information. We found several superclusters where cluster candidates are concentrated within scales of few tens of Mpc at z ~ 0.9. Interestingly, some of the supercluster candidates consist of galaxy clusters which are dominated by blue galaxies. We will present high redshift galaxy cluster and supercluster candidates in ELAIS-N1 field and galaxy properties in different environments including dense clusters and fields.

[포 GC-09] Stellar and Ionized Gas Kinematics of Blue-cored Early-type Dwarf Galaxies in the Virgo Cluster

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Early-type dwarf galaxy (ETDG), the most abundant galaxy type in clusters, were recently shown to exhibit a wide variety in their properties. Particularly, the presence of blue cores in some ETDGs supports the scenario of late-type galaxy infall and subsequent transformation into red, quiescent ETDGs. While several transformation mechanisms for these ETDGs with blue core within cluster environment have been proposed, all these processes are able to explain only some of the observational properties of ETDGs such as stellar populations and structural parameters. In this context, internal kinematic properties of blue-cored ETDGs provide the most crucial evidence to discriminate different processes for the formation of these galaxies. We present a kinematic analysis of two blue-cored ETDGs in the Virgo cluster based on long-slit data obtained from Gemini Multi-Object Spectrographs (GMOS) observations. We find that the observed galaxies show kinematically decoupled sub-components in the velocity profile such as discontinuity or counter-rotating component. We discuss possible