accurate masses. The "See Change" HST programme offers a rare opportunity to measure them using weak gravitational lensing. In this talk, we study SPT-CL J0205-5829 (z=1.322) and MOO1014+0038 (z=1.24) discovered in the SPT-SZ survey and MaDCoW Survey, respectively. We perform weak lensing analysis with the Advanced Camera for Surveys (ACS) and Wide Field Camera 3 (WFC3) images by carefully taking into account the instrumental effect. We successfully detect weak lensing signals which produce cluster masses consistent with those from non-lensing methods based on hydrostatic equilibrium.

[구 GC-10] A redshift survey of the nearby galaxy cluster Abell 2199: comparison of the spatial and kinematic distributions of galaxies and intracluster medium

Hyunmi Song(송현미)[1], Ho Seong Hwang(황호성)[2], Changbom Park(박창범)[3], Takayuki Tamura[4]
[1]Korea Astronomy and Space Science Institute (KASI; 한국천문연구원), [2]Quantum Universe Center, Korea Institute for Advanced Study(QUC KIAS; 고등과학원 양자우주센터), [3]School of Physics, Korea Institute for Advanced Study(KIAS; 고등과학원 물리학부) [4]Japan Aerospace Exploration Agency(JAXA)

We present the results from an extensive spectroscopic survey of the central region of the nearby galaxy cluster Abell 2199 (A2199) at z=0.03. By combining 775 new redshifts from the MMT/Hectospec observations with the data in the literature, we construct a large sample of 1624 galaxies with measured redshifts at R<30', which redsults in high spectroscopic completeness at $r_{petro,0}$<20.5 (77%). We use these data to study the kinematics and clustering of galaxies, focusing on the comparison with those of the intracluster medium (ICM) from Suzaku X-ray observations. We identify 406 member galaxies of A2199 at R<30' using the caustic technique. The velocity dispersion profile of cluster members appears smoothly connected to the stellar velocity dispersion profile of the cD galaxy. The luminosity function is well fitted with a Schechter function at M_r<-15. The radial velocities of cluster galaxies generally agree well with those of the ICM, but there are some regions where the velocity difference between the two is about a few hundred kilometers per second. The cluster galaxies show a hint of global rotation at R<5' with v_{rot}=300-600 km s^{-1}, but the ICM in the same region does not show such rotation. We apply a friends-of-friends algorithm to the cluster galaxy sample at R<60' and identify 32 group candidates, and examine the spatial correlation between the galaxy groups and X-ray emission. This extensive survey in the central region of A2199 provides an important basis for future studies of interplay among the galaxies, the ICM, and the dark matter in the cluster.

[박 GC-11] Near-IR Polarization of the Northeastern Region of the Large Magellanic Cloud

Jaeyeong Kim
Kyung Hee University, Korea,

The Large Magellanic Cloud (LMC) is a unique target to study the detail structures of molecular clouds and star-forming regions, due to its proximity and face-on orientation from us. Most part of the astrophysical subjects for the LMC have been investigated, but the magnetic field is still veiling despite its role in the evolution of the interstellar medium (ISM) and in the main force to influence the star formation process. Measuring polarization of the background stars behind interstellar medium allows us to describe the existence of magnetic fields through the polarization vector map.

In this presentation, I introduce the near-infrared polarimetric results for the 39′×69′ field of the northeastern region of the LMC and the N159/N160 star-forming complex therein. The polarimetric observations were conducted at IRSF/SIRPOL 1.4 m telescope. These results allow us to examine both the global geometry of the large-scale magnetic field in the northeastern region and the close structure of the magnetic field in the complex. Prominent patterns of polarization vectors mainly follow dust emission features in the mid-infrared bands, which imply that the large-scale magnetic fields are highly involved in the structure of the dust cloud in the LMC. In addition, local magnetic field structures in the N159/N160 star-forming complex are investigated with the comparison between polarization vectors and molecular cloud emissions, suggesting that the magnetic fields are resulted from the sequential formation history of this complex. I propose that ionizing radiation from massive stellar clusters and the expanding bubble of the ionized gas and dust in this complex probably affect the nascent magnetic field structure.