Zurich, Switzerland, [4]International Centre for Radio Astronomy Research, Australia, [5]Pontificia Universidad Catolica de Chile, Chile, [6]Eureka Scientific, USA, [7]University of Maryland, USA

We report preliminary results from our radio study of X-ray selected complete AGN sample in the Local Universe (z < 0.05), using the KVN/KaVA. The main goal is to probe the parsec-scale radio properties of the X-ray selected AGNs, which has not been done systematically before. The BASS (Burst Alert Telescope AGN spectroscopic survey) sample from the *Swift*-BAT hard X-ray all-sky survey is the least biased AGN sample against dense gas/torus obscurations compared to optically selected AGNs, providing ideal targets to study the general properties of local AGNs in radio wavelengths. Combining our radio data with BASS X-ray/optical measurements, we will probe the relations of radio powers with the fundamental quantities of black holes such as bolometric luminosity, black hole mass, and Eddington ratio. Using these relations, we will discuss our current understandings of how accretions and jets of local AGNs are linked together, and what they imply for the nature of our AGN sample.

[포 GC-08] On the physical origins for the two-halo conformity

Seongu Seo and Suk-Jin Yoon
Department of Astronomy, Yonsei University

The two-halo conformity is that if a central galaxy in a dark matter halo is quenched in star formation, the central galaxies in other neighboring halos (within ~ 4 Mpc) even with no causal contact seem conformed to be quenched. The galactic similarity ranging far beyond the virial radius of each dark matter halo cannot be explained by known environmental effects (ram pressure, tidal interaction, etc.). Here, using a cosmological hydrodynamic simulation, we put forward new physical origins for the phenomenon; the back-splash galaxies scenario and the halo assembly bias scenario. We discuss the relative importance of the two explanations on a quantitative basis.

[포 GC-09] Faint Quasar Candidates at z~5 in the ELAIS-N1 field

Suhyun Shin[1,2], Myungshin Im[1,2], Yongjung Kim[1,2], Minhee Hyun[1,2], Yiseul Jeon[1,3], Minjin Kim[4,5], Dohyeong Kim[1,2], Jae-Woo Kim[4], Yoon Chan Taak[1,2], Yongmin Yoon[1,2], Changsu Choi[1,2], Jueun Hong[1,2], Hyunsung David Jun[1,6], Marios Karouzos[7], Duho Kim[1,8], Ji Hoon Kim[9], Seong-Kook Lee[1,2], Soojong Pak[10], and Won-Kee Park[4]
[1]Center fore the Exploration of the Origin of the Universe (CEOU), [2]Astronomy Program, FPRD, Department of Physics & Astronomy, Seoul National University, [3]LOCOOP, Inc., [4]Korea Astronomy and Space Science Institute, [5]University of Science and Technology, [6]Korea Institute for Advanced Study, [7]Nature Astronomy, [8]Arizona State University, School of Earth and Space Exploration, [9]Subaru Telescope, National Astronomical Observatory of Japan, [10]School of Space Research and Institute of Natural Sciences, Kyung Hee University…

Faint quasars are important to test the possibility that quasars are the main contributor to the cosmic reionization. However, it has been difficult to find faint quasars due to the lack of deep, wide-field imaging data. In this poster, we present our efforts to find faint quasars in the ELAIS-N1 field through the deep data (iAB ~ 25) obtained by the Subaru Hyper Suprime-Cam (HSC) Strategic Program survey. To select reliable quasar candidate, we also use the near-infrared (NIR) data of the Infrared Medium-deep Survey (IMS) and the UKIRT Infrared Deep Sky Survey (UKIDSS) - Deep Extragalactic Survey (DXS). Using multiple-band color cuts, we select high redshift quasar candidates. To confirm them as high redshift quasars, candidates are observed by the SED camera for QUasars in EArly uNiverse (SQUEAN) instrument in several medium band filters that can sample the redshifted Lyman break efficiency. The quasar sample will be used to study the growth of BH and stellar mass, the relation between the quasar activity and the host galaxy, and their contribution to the cosmic re-ionization.

[포 GC-10] Rest-frame optical spectroscopic properties of submillimeter galaxies

Hyunjin Shim
Department of Earth Science Education, Kyungpook National University

Considering the statistical redshift distribution of the known submillimeter galaxy (SMG) population, most of the significant optical emission lines such as [OII]λ3727, Hβ, [OIII]λ5007, and Hα are redshifted into near-infrared. Using the 3D-HST grism data that provides low resolution NIR spectroscopy over the several deep fields covered by the JCMT large program S2CLS, I investigated

the properties of the optical emission lines for submm galaxies which could be used as a proxy for future optical/NIR identification and follow up of the SMGs.

[포 GC-11] The Kennicutt-Schmidt relation of the ram pressure stripped gas

Bumhyun Lee and Aeree Chung
Department of Astronomy, Yonsei University

Ram pressure due to the intracluster medium (ICM) is known to play a crucial role in removing the cool gas content of a galaxy on a short timescale, potentially driving a star forming galaxy to evolve into a red passive population. Although many HI imaging studies find clear evidence of diffuse atomic gas stripping from cluster galaxies, it is still debatable whether the ram pressure can also strip dense molecular gas. NGC 4522, a Virgo spiral, undergoing strong ram pressure stripping, is one of the few cases where extraplanar CO emission together with stripped HI gas and Hα knots has been identified, providing an ideal laboratory to study the molecular gas stripping event and the extraplanar star formation activity. The aim of this work is to investigate the origin of extraplanar molecular clouds near NGC 4522 (e.g. stripped or forming in situ), and to probe a relation between the molecular gas surface density and the star formation rate (i.e. the Kennicutt-Schmidt law) at sub-kpc scale, especially in the extraplanar space, using ALMA Cycle 3 CO data and Hα data of NGC 4522. We present the results from our ALMA observations, and discuss possible scenarios for the origin of extraplanar molecular clouds and to characterize the star formation activity associated with stripped gas outside the galactic disk.

[포 GC-12] Testing for Dust Stripping of Virgo Cluster Galaxies According to HI Gas Stripping Stage

Hye-Ran Lee[1,2], Ann Zabludoff[3], Joon Hyeop Lee[1,2], Byeong-Gon Park[1,2]
[1]University of Science and Technology, [2]Korea Astronomy and Space Science Institute, [3]University of Arizona

We Investigate dust stripping of Virgo cluster galaxies that are known to suffer HI gas stripping. The gas stripping phenomena of these galaxies may result from either ram pressure induced by the hot intracluster medium or gravitational tidal interactions between galaxies. While much efforts have been made to directly detect gas removed from cluster galaxies, the spatial distributions of dust, which should also be affected, are hardly known. Several previous studies have tried to directly detect the morphology of gas or dust using radio or infrared observations, but such approaches are hard to widely apply because of the limit of observational resolution and sensitivity. In this study, we try a different approach using optical data: measuring the background galaxy reddening by the dust stripped from the Virgo cluster members. Based on optical color excess maps of the background galaxies, we compare the ambient dust distribution with the HI morphology of the Virgo galaxies. We discuss how efficiently dust stripping can be detected with this method and how the stripped dust is associated with the removed gas according to HI gas stripping stage over the sample.

[포 GC-13] Star Formation and Gas Accretion in Nearby Galaxies

Kijeong Yim[1] and J. M. van der Hulst[2]
[1]Korea Astronomy and Space Science Institute, [2]Kapteyn Astronomical Institute, University of Groningen, The Netherlands

We Investigate dust stripping of Virgo cluster galaxies that are known to suffer HI gas stripping. The gas stripping phenomena of these galaxies may result from either ram pressure induced by the hot intracluster medium or gravitational tidal interactions between galaxies. While much efforts have been made to directly detect gas removed from cluster galaxies, the spatial distributions of dust, which should also be affected, are hardly known. Several previous studies have tried to directly detect the morphology of gas or dust using radio or infrared observations, but such approaches are hard to widely apply because of the limit of observational resolution and sensitivity. In this study, we try a different approach using optical data: measuring the background galaxy reddening by the dust stripped from the Virgo cluster members. Based on optical color excess maps of the background galaxies, we compare the ambient dust distribution with the HI morphology of the Virgo galaxies. We discuss how efficiently dust stripping can be detected with this method and how the stripped dust is associated with the removed gas according to HI gas stripping stage over the sample.