areas of the Virgo cluster: the inner X-ray emission region and its outer region. We find a marginal conformity in color (> 2σ significance to bootstrap uncertainty) in the outer region, while no meaningful signal of small-scale conformity is detected in the X-ray emission region. We discuss the implication of this result, focusing on cluster mass assembly and cluster environmental effects on galaxy evolution.

[포 GC-22] NGC 6273 as a new building block candidate

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Recent studies for the Milky Way globular clusters (GCs) have reported that most of them host multiple stellar populations. However, only a few GCs have shown abundance variations in heavy elements such as iron and calcium. These GCs, as galaxy building blocks, are important to understand the formation of the Milky Way in hierarchical merging paradigm. In this study, we report our discovery from the Ca narrow-band photometry and low-resolution spectroscopy that NGC 6273 is a new Milky Way building block candidate.

[포 GC-23] Balmer Wing Formation in Active Galactic Nuclei.

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Powered by a supermassive black hole, active galactic nuclei (AGNs) are characterized by prominent emission lines including Blamer lines. The unification scheme of AGNs requires the existence of a thick molecular torus that may hide the broad emission line region. In this configuration, it is expected that the far UV radiation from the central engine can be Raman scattered by neutral hydrogen to reappear around Balmer lines which can be identified observationally with broad Balmer wings. Another mechanism that can form Balmer wings is considered by invoking a fast moving medium around the central engine. In this presentation, we produce Balmer wings that are formed through Raman scattering and also those expected from a fast moving emission flow. It is noted that Raman Balmer wings exhibit stronger red part whereas the opposite behavior is seen in the Balmer wings obtained from a fast moving emission flow.

[포 GC-24] A New Selection Strategy of High Redshift Quasars: Medium-Band Observation with SQUEAN

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About 70 high redshift quasars with $z \geq 5$ have been discovered through combinations of standard broad-band filters to distinguish them from contaminating sources. However, among the discovered quasars so far, there is a redshift gap at $5 \leq z \leq 6$ due to the limitation of traditional filter sets and selection techniques. To understand the early mass growth of supermassive black holes and the final stage of the cosmic reionization, it is important to find a statistically meaningful sample of quasars with various physical properties. Here we suggest a new selection technique of high redshift quasars using medium-band filters: nine filters with bandwidths of 50nm and central wavelengths from 625 to 1025nm. Photometry with these medium-bands traces the spectral energy distribution (SED) of a source, similar to spectroscopy with R~15. We installed these filters to SED camera for QUasars in EArly uNiverse (SQUEAN) on the 2.1m telescope at McDonald Observatory, and conducted test observations of known high redshift quasars at $4.7 \leq z \leq 6.1$ and also dwarf stars for comparison. We found differences in SED shapes between high redshift quasars and dwarf stars, determined their locations on color-color diagrams, and demonstrated that the medium-band filters can enhance the efficiency of selecting robust quasar candidates in this redshift range. In this poster, we propose an effective selection method of high redshift quasars using these medium-band filters and discuss its effect on our high redshift quasar survey.

[포 GC-25] Gas and Stellar Kinematics of 9 Pseudo Bulge Galaxies

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We present the spatially resolved kinematics of

ionized gas and stars along the major axis of 9 pseudo bulge galaxies. Using the high quality long-slit spectra obtained with the FOCAS at the Subaru telescope, we measured the flux, velocity, and velocity dispersion of the [OIII] and Hβ lines to determine the size of the narrow-line region, rotation curve, and the radial profile of velocity dispersions. We compare ionized gas kinematics and stellar kinematics to investigate whether ionized gas shows any signs of outflows and whether stars and ionized gas show the same sigma-dip feature (i.e., decrease of velocity dispersion) at the very center.

[포 GC-26] Intensive Monitoring Survey of Nearby Galaxies

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We describe our ongoing project, Intensive Monitoring Survey of Nearby Galaxies. This survey is designed to study transients such as Supernovae (SNe) in nearby galaxies. Our targets are UV-bright (MUV < -18.4) and nearby (d < 50 Mpc) 50 galaxies selected from a GALEX catalog, whose star formation rates are larger than normal galaxies. High star formation in these galaxies ensures that core-collapse supernova explosions occur more frequently in them than normal galaxies. By monitoring them with a short cadence of a few hours, we expect to discover 5 SNe/yr events. Most importantly, we hope to construct very early light curves in rising phase for some of them, which enables us to understand better the physical properties of progenitor star and the explosion mechanism. To enable such a high cadence observation, we constructed a world wide telescope network covering northern, southern hemisphere distributed over a wide range of longitudes (Korea, US, Australia, Uzbekistan and Spain). Data reduction pipe line, detection and classification algorithms are being developed for an efficient processing of the data. Using the network of telescopes, we expect to reach observe not only SNe but also other transients like GRBs, Asteroid, variable AGNs and gravitaional wave optical counter part.

[포 GC-27] Examination of the Co-evolution of Galaxies and their Central SMBHs at High Redshifts with Gravitational Lensing by QSO Host Galaxies

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The M_{BH}-σ relation for galaxies is a stand-out illustration of the co-evolution of galaxies and their central supermassive black holes (SMBHs); however, how this co-evolution occurs and whether this relation holds for SMBHs of the early universe is still a matter of debate. In order to study this at higher redshifts, quasi-stellar objects (QSOs) are the best targets, due to their large sample size and effective M_{BH} estimation. Nevertheless, it is difficult to examine properties of their host galaxies, simply due to the sheer brightness of the QSO itself. Here, we discuss a distinctive method in studying these QSO host galaxies, via gravitational lensing (GL). GL offers a unique approach in determining the mass of the lens object, in this case the host galaxy. QSOs from the SDSS quasar catalog were searched in the *Hubble Space Telescope* archives, and GL features around them were visually inspected. One such candidate is SDSS J1114-00; to increase its robustness as a GL system candidate, it was observed with the Inamori-Magellan Areal Camera & Spectrograph (IMACS) on the Magellan Baade Telescope at Las Campanas Observatory, to check whether the GL features have identical colors, meaning they are likely to originate from the same source. After confirmation of such GL systems, a sufficiently large sample will enable us to examine the M_{BH}-σ relation at various redshifts, and in turn, investigate the co-evolution of SMBHs and their host galaxies.

[포 GC-28] High redshift galaxy clusters and superclusters in ELAIS-N1

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Galaxy overdensities such as galaxy clusters and superclusters are the largest gravitationally bound systems in the Universe. Since they contain many different levels of local densities, they are excellent