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