Previous studies investigated AGN metallicity using emission line flux ratios (i.e., NV/CIV and FeII/MgII), finding no evolution up to z~6. Those results might be due to selection effect since previous studies are based on very luminous AGNs. The observed luminosity-metallicity relation of AGNs (e.g., Nagao et al. 2006) suggests that luminous AGNs may be already matured at the observed epoch. Considering the luminosity-metallicty relation, we focused on low luminosity AGNs to find young AGNs (i.e., low metallicity). Through the Gemini/GNIRS observation in 2012A and 2015A (K-GMT GN-2015A-Q-203 PI: Shin, J.), we obtained the Gemini/GNIRS data for 7 high redshift AGNs (3.0<z<3.5). We will present and discuss our preliminary results on the their metallicity.

[포 GC-06] Do Galaxy Mergers Enhance Star Formation Rate in Nearby Galaxies?

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We present our study of the correlation between star formation rate(SFR) and merging activities of nearby galaxies(d<150Mpc). Our study uses 265 UV-selected galaxies which are not classified as AGN. The UV selection is made using the GALEX Atlas of Galaxies (Gil de Paz+07) and the updated UV catalog of nearby galaxies (Bai+15). We use deep R band optical images reaching to 1σ surface brightness detection limit ~27 mag/arcsec^2 to classify merger features by visual inspection. We also estimated unobscured SFR(SFR$_{NUV}$) and obscured SFR(SFR$_{W4}$) using Near-UV continuum and 22 micron Mid-IR luminosity respectively as a indicator of star forming activity. The fraction of galaxies with merger features in each SFR bin is obtained to see if how the fraction of galaxies with merging features(F_m) changes as a function of SFR. As a result, for 203 late type galaxies(LTGs), we found that merger fraction increases from ~8% up to 50% with SFR$_{W4}$, while for 229 LTGs SFR$_{NUV}$ shows relatively consistent fraction(~18%) of merger fraction. For early type galaxies(ETGs), we could also find no significant correlation between F_m and SFR(both SFR$_{NUV}$ and SFR$_{W4}$). This result suggests that a main driver of star forming activity of UV bright galaxies, especially for obscured late types, is mergers.

[포 GC-07] The Seoul National University AGN Monitoring Project (SAMP) : Photometric Light Curves

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We have been carrying out the long-term (3-5 years) AGN monitoring project since October 2015 to investigate the variability and measure the H beta line time lag of 69 nearby (0.06 < z < 0.47) AGNs based on the reverberation mapping method. Our targets have B band magnitudes of 14.4−18.6, luminosities of log L5100 = 45.6−48.1 erg/s, and the expected time lags of 28−597 light days. BVR band images are being taken with ~20-day cadence using MDM 1.3m, LOAO 1m and MDM 2.4m telescopes.

Recently, Nickel 1m at Lick and DOAO 1m at Deokheung observatory are joined with photometric observations. Follow-up spectroscopic observations are on-going using the Lick 3m and MDM 2.4m telescopes. In this poster, we will describe our project including sample selection and the observational strategy, and present the preliminary results based on the 1st year photometry.

[포 GC-08] Weak Lensing Analysis of the High-z Massive Galaxy Cluster SPT-CL J0205-5829 Using HST Data

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Discovered in the South Pole Telescope Sunyaev-Zel'dovich (SPT-SZ) survey, the galaxy cluster SPT-CL J0205-5829 at z = 1.322 might be the most massive known SZ-selected galaxy cluster at z > 1.2. The SZ and X-ray combined mass estimate is M500 = (4.8 ± 0.8) × 10^{14} M$_\odot$. To confirm this extreme mass, we perform weak