limited to $\dot{M} \lesssim 10^{17}$ kg/s $\approx 0.5 \ M_{Earth}$ / yr less than about 20% of the mass of G2. Accordingly, G2 appears to be largely stable against loss of angular momentum and subsequent (partial) accretion at least on time scales $\lesssim$ 1 year. *[Park et al. 2015 under review by A&A]*

## [포 GC-07] A Test of Correspondence Model with the HorizonRun 4 Simulation

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'The one to one correspondence model' defines the relation between a dark matter halo (DM halo) and a galaxy. A basic assumption of this model is that a more massive DM subhalo hosts a brighter galaxy. In a more improved version of the model we may be able to assign a mock galaxy with a morphological type. In this study, we are building a mock galaxy catalog using massive halo merging trees from the Horizon Run 4. We test various merging models to calculate the merging time scale of a subhalo along its merging tree. And we obtain the halo mass functions for major subhalos and satellite subhalos, separately, and compare them with the observed luminosity functions of major galaxies and satellite galaxies from the SDSS group catalog. Furthermore, we are going to make a range of mock galaxy catalogs and investigate their properties, such as spatial distributions, environmental effects, and morphologies.

## [포 GC-08] Optical 3D Spectroscopic Survey on Gas Outflows in Type 2 AGNs

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Strong outflows from active galactic nuclei (AGNs) may play a crucial role in galaxy evolution. Integral-field spectroscopy (IFS) is the most powerful tool to study the detailed kinematics of AGN outflows. We present the on-going optical 3D spectroscopic survey of ionized gas outflows. Type 2 AGN sample is uniquely selected from SDSS DR7 with a luminosity-limit (i.e., L[O III] > $10^{41.5}$ erg/s) as well as strong kinematic signatures of ionized gas outflows ([O III] velocity shift > ~200 km/s or [O III] velocity dispersion (FWHM) > 1000 km/s), defining an extremely rare population (< ~0.5%). Thus, these AGNs with strong outflow signatures are one of the best suites for investigating AGN feedback. The IFS observations cover several kpc scales for the central region of the host galaxies, providing a detailed information of the kinematics and geometry of the gas outflows. In this contribution, we report the current status of the survey and the preliminary results on gas kinematics of 18 AGNs, based on the Magellan/IMACS-IFU and the VLT/VIMOS data.

## [포 GC-09] Surface photometry and Structural properties of nearby dwarf galaxies.

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We present 2D- photometric decompositions of ~1,200 nearby dwarf galaxies. Our representative sample is derived from 'A catalog of Visually classified galaxies in the Local Universe'(Ann, Seo and Ha APJS,,,2015) of which galaxy morphological types are determined by visual inspection of color images using the Sloan Digital Sky Survey data release 7. In this catalog, dwarf galaxies were divided into 5 subtypes : dS0, dE, dSph, dEbc, dEblue with distinction of the presence of nucleation in dE, dSph, and dS0. The dSph types are less brighter than other types, and galaxies with nuclei are slightly brighter than those with no nuclei in the same types. Sersic index n have a range 1~1.5, and $dE_{un}$ and $dSph_{un}$ galaxies have n less than 1, and $dSph_n$ galaxies have largest values. We performed two-dimensional decomposition of galaxies using GALFIT, and analyzed their structural components, and residual features which are seen in the residual image.

## [포 GC-10] The narrow emission-line properties of radio-loud AGNs in the SDSS archive

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