

sets helps to trace the major galaxy population contributing to the CIB. Here, we introduce the extragalactic survey with the NISS and report the current status of the multi-wavelength extragalactic studies in the ADF-S.

[구 GC-03] A New Extensive Census of Warped Disk Galaxies in Nearby Universe

Galaxy Woong-bae Zee (지웅배), Suk-Jin Yoon (윤석진)

Department of Astronomy and Center for Galaxy Evolution Research, Yonsei University (연세대학교 천문우주학과 & 은하진화연구센터)

The galactic warp is almost ubiquitous among disk galaxies and suspected to be an imprint of recent interactions with other galaxies. The detailed evolutionary course, however, is still uncertain due to the lack of observational evidence. To address this issue, we construct a new extensive catalog of 412 conspicuously warped disks at $z = 0.01 \sim 0.05$, based on SDSS DR7. We classify the warp morphology through a visual inspection from the Zooniverse Project and our new automated scheme for the warp measurement. We find an interesting color difference between S- and U-shaped warps. The U-type warp galaxies exhibits considerable color offset towards blue compared to both the S-type warps and the control sample of un-warped galaxies. The effect is even more pronounced for galaxies (a) with the greater warp amplitude and (b) with lower luminosity. This is the first piece of observational evidence that the S- and U-shaped warps are on different evolutionary phases in terms of not only dynamics but stellar populations as well. We discuss the implications in the context of the warp evolution theory.

[구 GC-04] Towards the Understanding of the Growth and Evolution of Supermassive Black Holes at Galaxy Centers

Ji-hoon Kim

Department of Physics and Astronomy, Seoul National University, Republic of Korea

As computational resolution of modern cosmological simulations reach ever so close to resolve individual star-forming clumps in a galaxy, a need for "resolution-appropriate" physics for a galaxy-scale simulation has never been greater. To this end, we introduce a self-consistent numerical framework that includes explicit

treatments of feedback from star-forming molecular clouds and massive black holes. We perform a state-of-the-art cosmological simulation of a quasar-host galaxy at $z \sim 7.5$, and demonstrate that previously undiscussed types of interplay between galactic components may hold important clues about the growth and impact of quasar-host galaxies.

[구 GC-05] Horizon-AGN virtual observatory: SED-fitting performance and forecasts for future imaging surveys

Clotilde Laigle¹, I. Davidzon², O. Ilbert³, J. Devriendt¹, D. Kashino⁴, P. Capak², S. Arnouts³, S. De la Torre³, Y. Dubois⁵, G. Gozaliasl⁶, D. Leborgne⁵, H. J. McCracken⁵, C. Pichon⁵
¹University of Oxford, ²California Institute of Technology, ³LAM Universite d'Aix-Marseille & CNRS, ⁴ETH Zurich, ⁵Institut d'Astrophysique de Paris, ⁶University of Turku Vaisalantie

We use the synthetic light-cone from the cosmological hydrodynamical simulation Horizon-AGN to produce a mock photometric galaxy catalogue on the redshift range $0 < z < 4$ using the 30 COSMOS, LSST, DES and Euclid filter passbands. The virtual photometry consistently includes complex star formation histories and metallicities, dust, IGM attenuation on each sightline and realistic flux errors. These latter are calibrated to mimic COSMOS2015, a LSST-like and an Euclid-like surveys. Redshifts and physical properties are then computed through SED-fitting with the same configuration as those routinely used for observed datasets, and compared with the properties directly extracted from the simulation. From this comparison we quantify uncertainties and systematics related to the depth of the survey, the choice of photometric filters and simple assumptions at the SED-fitting stage on star-formation histories, metallicity enrichment and dust attenuation. Using a dust-free virtual photometry, the specific role of dust in driving part of the systematics is isolated. The impact of IMF, stellar evolution prescriptions, and flux errors is discussed. The expected performance of future imaging surveys at completion are also investigated.

[구 GC-06] The BAT AGN Spectroscopic Survey: concept, status, and future perspectives

Kyuseok Oh^{1,2}, Yoshihiro Ueda¹, Michael Koss³,