of the MW's DoS with a value of 0.183. Each satellite system has a specific orbital combination and thus has a particular distribution of its parameters (and thus flatness). The median of the distribution is set as the representative value of each system. And the representative value of the MW can be used as a new criterion for classifying the MW-like DoS. We reconstruct the orbital combination of the observed MW satellites using GAIA DR2 data and find the systems in the simulation that have representative values similar to the new criterion from the reconstructed MW system. This allows us a new interpretation on the rarity of MW-like DoS in cosmological simulations.

[구 GC-14] Dark Matter Deficient Galaxies Produced via High-velocity Galaxy Collisions In High-resolution Numerical Simulations

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The recent discovery of diffuse dwarf galaxies that are deficient in dark matter appears to challenge the current paradigm of structure formation in our Universe. We describe the numerical experiments to determine if the so-called dark matter deficient galaxies (DMDGs) could be produced when two gas-rich, dwarf-sized galaxies collide with a high relative velocity of ~ 300km/s. Using idealized high-resolution simulations with both mesh-based and particle-based gravito-hydrodynamics codes, we find that DMDGs can form as high-velocity galaxy collisions separate dark matter from the warm disk gas which subsequently is compressed by shock and tidal interaction to form stars. Then using a large simulated universe ILLUSTRISTNG, we discover a number of high-velocity galaxy collision events in which DMDGs are expected to form. However, we did not find evidence that these types of collisions actually produced DMDGs in the ILLUSTRISTNG100-1 run. We argue that the resolution of the numerical experiment is critical to realize the "collision-induced" DMDG formation scenario. Our results demonstrate one of many routes in which galaxies could form with unconventional dark matter fractions.

[구 GC-15] Reverberation Mapping of Nearby AGN with Medium-band and LSGT

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Reverberation mapping is one of the best ways to investigate the physical mechanism of broad-line regions around central supermassive black holes of active galactic nuclei (AGNs). It is usually used to estimate the masses of supermassive black holes. Although spectroscopic reverberation mapping has used to study dozens of AGN, spectroscopic monitoring campaign of large sample is expansive. Here, we present results of photometric reverberation mapping with medium-band photometry.

We monitored five nearby AGN which were already studied with H-alpha emission line. Observation has been performed for ~3 months with ~3 days cadence using three medium-band filters installed in LSGT (Lee Sang Gak Telescope; 0.43m).

We found 0.01-0.08 magnitude variations from differential photometry. Also time-lags between continuum light-curves and H-alpha emission line light-curves are found using JAVELIN software. The result shows that our study and previous studies are consistent within uncertainty range. In the near future, medium-band photometric reverberation mapping seems useful to study large AGN samples. We will present preliminary result of following study that report new time lag measurement of six AGNs in the similar way.

[구 GC-16] The Infrared Medium-deep Survey. VIII. Quasar Luminosity Function at z ~ 5

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