

RC are enhanced in CN compared to those in faint RC from our low-resolution spectroscopy. CN traces N, and N-rich stars are also enhanced in Na and He in GCs. Since GCs are the only environment that produce second generation stars with enhanced N, Na, & He, this is a direct evidence that stars in the classical bulge component of the MW were mostly provided by proto-GCs.

**[포 GC-22] Photometric Reverberation Mapping of Active Galactic Nuclei with Medium-band Filters and a Large FOV Telescope.**

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We present a noble method to determine BH mass of many AGNs directly through reverberation mapping using a small telescope with wide-field of view.

In 2017 August we installed five medium-band filters to a 0.25m diameter 5 deg<sup>2</sup> FOV telescope at the McDonald observatory. The width of these filters (FWHM ~ 50nm) are matched to the broad line width of type-1 AGNs at various redshifts. From recently obtained data, about  $r \sim 19$  magnitude AGNs can be detected in line component with 150s exposure. With this magnitude limit, about 20~30 AGNs can be studied in one field. We plan to carry out at one day cadence observation over 20~30 fields, enabling us to monitor up to ~1000 AGNs over a wide range of variability. This poster presents out plan and early results from test observation.

**[포 GC-23] The Environments of Post-Starburst Galaxies**

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Post-starburst (E+A) galaxies are thought to be in the green valley transition phase between star-forming blue galaxies and quiescent red

galaxies. They are identified by their unusual spectra characterized by strong Balmer absorption lines and weak emission lines, indicating a period of starburst followed by abrupt quenching. However, the underlying mechanism that drives the formation of E+A galaxies still remains contradictory or inconclusive. Thus, in order to differentiate between the different formation scenarios of E+A galaxies, we perform a statistical analysis of the environments of E+A galaxies. We spectroscopically identify a large sample of post-starburst galaxies from the Sloan Digital Sky

Survey Data Release 7 (SDSS DR7) using a selection criteria based on H $\delta$  equivalent width. We report our findings and discuss their implications in the context of post-starburst galaxy formation.

**우주론/암흑물질에 너지**

**[포 CO-01] Redshift Space Distortion on the Small Scale Clustering of Structure**

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The positions of galaxies in comoving Cartesian space varies under different cosmological parameter choices, inducing a redshift-dependent scaling in the galaxy distribution. The shape of the two-point correlation of galaxies exhibits a significant redshift evolution when the galaxy sample is analyzed under a cosmology differing from the true, simulated one. In our previous works, we can made use of this geometrical distortion to constrain the values of cosmological parameters governing the expansion history of the universe. This current work is a continuation of our previous works as a strategy to constrain cosmological parameters using redshift-invariant physical quantities. We now aim to understand the redshift evolution of the full shape of the small scale, anisotropic galaxy clustering and give a firmer theoretical footing to our previous works.

**[포 CO-02] Small-scale Features of Thermal Inflation: CMB Distortion, Substructure Abundance, and 21cm Power Spectrum**

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