[포ST-12] Optical and Near-Infrared Color Distributions of the NGC 4874 Globular Cluster System

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We examine both optical and optical/near-infrared (NIR) color distributions of the globular cluster (GC) system in the core of the Coma cluster of galaxies (Abell 1656), centered on the giant elliptical galaxy NGC 4874, to study how non-linearities in the color-metallicity relations of GC systems in large elliptical galaxies are linked to bimodal optical color distributions. Since optical-NIR color distributions of extragalactic GC systems reflect the underlying features of the metallicity distributions, we also present the color-color relation for this GC system. In order to do this, we combine F160W (H_{160}) NIR imaging data acquired with the Wide Field Camera 3 IR Channel (WFC3/IR), newly installed on Hubble Space Telescope (HST), with F475W (g_{475}) and FF814W (I_{814}) optical imaging data from the HST Advanced Camera for Surveys (ACS). To quantitatively explain the feature of color distributions, we use the Gaussian Mixture Modeling (GMM) code. Finally, we show the radial distribution of the GCs in the field of NGC 4874.

[포ST-13] Near-Infrared Spectra of Super Star Clusters in M82

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We observed selected super cluster regions in M82 with 5◈5 arcsec field-of-view using near-IR high resolution echelle spectrometer, IRCS, at the SUBARU 8.2 m telescope. The slit width of 0.15 arcsec makes the high resolution (R ≈ 20,000) spectra in the H and K bands. In this poster, we present sample spectra of [FeII] lines and ro-vibration lines of H_2 which trace ionic shocks in the intercloud regions and molecular shocks. The line widths of Brγ line are also measured to derive the velocity dispersion within the super star clusters.