Based on the kinematics derived from the spectra, we have found that most globular clusters rotate around M81. We have also discovered more than ten globular clusters belonging to M82, and that their kinematics is different from that of young star clusters in the disk of M82. There are few candidates of intra-group globular clusters. We will discuss the implications of these results.

[구 GC- 14] How did the peculiar S0 galaxy M85 form?

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M85 is a merger remnant galaxy in the Virgo Cluster, showing complex merging features. Globular clusters in M85 are a good tracer of its merging history. To investigate globular cluster system of M85, we obtain deep and wide field images of M85 in *ugi* filters covering one square degree using CFHT/MegaCam. We discover about 1,000 globular cluster candidates in these images. The color distribution of the globular cluster candidates within $r < 5'$ from M85 does not show a clear bimodality and blue globular cluster candidates are more than red ones. These features are different from those in massive early-type galaxies. The spatial distribution of the globular cluster candidates is elongated along the faint stellar light of M85. We also investigate the spatial distribution of sub-populations of the globular cluster candidates with different color and brightness and estimate their ages based on their color. We discuss these results in relation with the formation history of M85.

[구 GC-15] Progress Report of the Hubble Constant Determination based on the TRGB Method

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Modern methods in determining the value of the Hubble constant are divided into two main ways: the classical distance ladder method and the inverse distance ladder method. The classical distance ladder method is based on Cepheid calibrated Type Ia supernovae (SNe Ia), which are known as powerful distance indicator. The inverse distance ladder method uses cosmic microwave background radiation, which emitted from the high-z universe, and the cosmological model. Recent estimations of the Hubble constant based on these two methods show a 2~3σ difference, which called the "Hubble tension". It is currently an issue in the modern cosmology. We have been working on the luminosity calibration of SNe Ia based on the Tip of the Red Giant Branch (TRGB), which is a precise population I distance indicator. We present the TRGB distance estimates of 5 SNe Ia host galaxies with the archival Hubble Space Telescope image data. We derive the mean absolute maximum magnitude of 5 SNe Ia and the value of the Hubble constant. Cosmological implications of our estimate will be discussed.

[구 GC-16] The significance of galaxy mergers in stellar mass growth as a function of galaxy and halo mass

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As theoretical and empirical studies have pointed out, galaxy mergers play a pivotal role in galaxy mass assembly histories. Its contribution is considered to be more significant in more massive galaxies. In order to quantitatively understand the origin of stellar components in galaxies, we investigated stellar mass assembly histories as a function of galaxy and halo mass using semi-analytic approaches. In this study, we found that the most massive galaxies ($\log M/\mathbf{M}_{\odot} \sim 11.75$ at $z = 0$), which are mostly the brightest cluster galaxies, obtain roughly 70% of their stellar components via mergers. The role of mergers monotonically declines with galaxy mass: less than 20% for $\log M/\mathbf{M}_{\odot} = 10.75$ at $z = 0$. The contribution of galaxy mergers to stellar mass growth decays more slowly than that of in-situ star formation. Therefore, merger accretion becomes a dominant channel for stellar mass growth of the most massive group since z~2. However, when it comes to central galaxies in haloes less massive than $\mathbf{10^{13}M_{\odot}}$, star formation is always dominant.

[초 GC-17] Carnegie Hubble Program II : Overview and Research Status

Soung-Chul Yang