spectral decomposition of the [OIII] and Hα line profiles with spatial information on ~0.5kpc scales to understand the outflow kinematics and energetics in these objects. We find clear evidence for strong outflows in [OIII] and occasionally Hα that are clearly driven by the ionizing radiation of the AGN. We kinematically and spatially decompose outflowing and rotating ionized gas components. We find [OIII] to be a better tracer of AGN outflows, while Hα appears to be strongly affected by both stellar rotation and outflows induced by ongoing star formation. The observed kinematics and spatial distribution of the ionized gas imply a large opening angle for the outflow. Finally, we find the projected outflow velocity to decrease as a function of distance, while its dispersion shows a more complex structure with a potentially initially increasing trend (out to 0.5-1kpc distances).

[구 GC-15] How did the merger remnant galaxy M85 form?: A follow-up spectroscopy for M85 globular clusters

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M85 is a nearby merger remnant galaxy located at the northern part of the Virgo Cluster. Because of its remarkable merging features, it is an interesting object to investigate its formation history. Globular clusters are a great tracer of the formation history of early-type galaxies, so that we study the globular cluster system of M85. It has been already found that there are “intermediate-color” globular clusters as well as blue and red ones based on the photometric survey using CFHT/Megacam. For follow-up research, we obtain the spectra of 21 globular clusters in the central region of M85 using Gemini-N/GMOS. We estimate their ages and metallicities based on the strength of Lick indices. We detect the intermediate-age population (~ 2 Gyr) with solar metallicities, comprising about 50% of the observed globular clusters, as well as old and metal-poor population. It suggests that M85 experienced a major merging event around 2 Gyr ago. We discuss these results regarding to the formation history of M85.

[구 GC-16] Deciphering Diverse Color Distribution Functions of Globular Cluster Systems

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The color distribution functions (CDFs) of globular clusters (GCs) in individual early-type galaxies show great diversity in their morphology. Based on the conventional "linear" relationship between colors and metallicities of GCs, the inferred GC metallicity distribution functions and thus their formation histories should be as diverse as they appear. In contrast, an alternative scenario rooted in the "nonlinear" nature of the color-to-metallicity transformation finds the various CDFs pointing systematically to a simple picture, i.e., such a high degree of variety stems predominately from only one parameter, the mean metallicity of GCs. The simulated CDFs of GCs aimed to reproduce 67 massive early-type galaxies from the ACS Virgo & Fornax Cluster Survey show that over 70% of the CDFs concur fully with the nonlinearity scenario. We discuss our new findings in terms of early-type galaxy formation in the cluster environment.

[구 GC-17] Mean Velocity of Globular Cluster Systems in M86 Virgo Giant Elliptical Galaxy and Massive Early-Type Galaxies

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We present the spectroscopic study of the globular clusters (GCs) in the massive elliptical galaxy M86 in the Virgo galaxy cluster. Using the spectra obtained from the Multi-Object Spectroscopy (MOS) mode of Faint Object Camera and Spectrograph (FOCAS) on the Subaru Telescope, we measure the radial velocities for 56 GCs in M86. The mean velocity of the GCs is derived to be $\langle v_p \rangle = -335 \pm 41$ km/s, which is different from the velocity of the M86 nucleus ($\langle v_{gal} \rangle = -224 \pm 5$ km/s) within ~ 2.5 σ. The mean velocity ($\langle v_p \rangle = -342 \pm 60$ km/s) of 33 blue GCs in M86 is similar to that ($\langle v_p \rangle = -314 \pm 71$ km/s) of 23 red GCs. We also derive the mean velocities of the GC systems in other 16 nearby early-type galaxies (ETGs) from the radial velocity data in the