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**[구ST-17] Ca uvby photometry of the Galactic globular clusters NGC 6121 (M4) and NGC 5904 (M5)**

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We present Ca uvby photometry of the Galactic globular clusters M4 and M5. Although M4 and M5 have essentially identical metallicities,  $[Fe/H] = -1.2$ , based on high-resolution spectra of large samples, M5 has the extended blue horizontal branch stars in their color-magnitude diagram. We will discuss the morphological differences between the two clusters and we will compare properties of RR Lyrae variables in the clusters.

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**[구ST-18] Young Star Clusters and the Star Formation Ring Structure in M31**

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Most recently, in addition to the unusual well-known 10 kpc ring seen in previous observations of M31, the presence of a second, inner dust ring was discovered in the disk of M31 (Block et al. 2006). The two off-center circular rings suggest that M31 has been distorted by very recent passage of a satellite through the disk. In this case, a recent violent event may enhance the efficiency of star formation in the disk of M31. On the other hand, the existence of young star clusters in the outskirts of M31 disk suggests the occurrence of a significant recent star formation in the disk of M31. Most of the young star clusters in M31 have similar characteristics to the blue star clusters in LMC. Star cluster system can be a tracer of satellite inflow and assembly, in the sense that significant star cluster formation is typically produced by major star-forming episode in a galaxy. Therefore, assuming that a merging/accretion event may trigger high-level star formation in the disk of M31 than in quiet giant galaxies, it is intriguing to examine the properties of star clusters related to the history of M31 disk. By studying the kinematics, age, mass, and spatial distribution of young star clusters in M31, we confirm the existence of plentiful young massive clusters associated with the disk of M31, and suggest that these young clusters may be a product of a suggested recent merger occurred at the center of M31 disk.