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The M81 Group is the nearest among the known groups of galaxies. HI maps show that all main galaxies of this group are interacting, indicating that this group is in the active phase of formation. On the other hand, wide field imaging shows that globular cluster candidates are found not only in the member galaxies but also between the galaxies in this group. In this study we present preliminary results based on MMT/Hectospec spectroscopy of the globular cluster candidates in this group. We find that the intragroup globular clusters have mostly low metallicity, while the globular clusters in M81 have mostly high metallicity. We will discuss the implication of this result and the kinematics of the globular clusters in relation with the formation history of the M81 Group.

[구 GC-04] Intensive Monitoring Survey of Nearby Galaxies

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SNe light curves have been used to understand the expansion history of the universe, and a lot of efforts have gone into understanding the overall shape of the radioactively powered light curve. However, we still have little direct observational evidence for the theorized SN progenitor systems. Recent studies suggest that the light curve of a supernova shortly after its explosion (< 1 day) contains valuable information about its progenitor system and can be used to set a limit on the progenitor size, R∗. In order to catch the early light curve of SNe explosion and understand SNe progenitors, we are performing a ~8hr interval monitoring survey of nearby galaxies (d < 50 Mpc) with 1-m class telescopes around the world. Through this survey, we expect to catch the very early precursor emission as faint as R=21 mag (~0.1 Rsun for the progenitor). In this talk, we outline this project, and present a few scientific highlights, such as the early light curve of SN 2015F in NGC 2442.

[구 GC-05] The Contribution of Mergers on Star Formation Activities in Nearby Galaxies.

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We present our study of the correlation between the UV luminosity and the merging activities of nearby galaxies (d < 300 Mpc). Our study uses ~600 UV-selected galaxies with deep optical imaging data, where the UV selection is made using the GALEX Atlas of Galaxies (Gil de Paz et al. 2007) and the updated UV catalog of nearby galaxies (Yu Bai et al. 2015). Deep optical images allow us to classify merger features using visual inspection, and we also estimate unobscured SFR using UV continuum luminosity. The fraction of galaxies with merger features in each UV luminosity bins are obtained to see if how the fraction of galaxies with merging features changes as a function of UV luminosity, Finally, we will show, above what UV luminosity (or SFR), the merging mechanism becomes an important process in enhancing star formation of galaxies.

[구 GC-06] The Vertical Disk Structure and Star Formation in Nearby Edge-On Galaxies

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We present the radial variations of the scale heights and the vertical velocity dispersions in a sample of nearby edge-on galaxies using BIMA/CARMA ^{12}CO (J=1→0), VLA/EVLA HI, and Spitzer 3.6 μm data. Both the disk thicknesses and the velocity dispersions of gas and stars vary with radius, contrary to assumptions of previous studies. We investigate how the interstellar gas pressure and the gravitational instability parameter differ from values derived assuming constant velocity dispersions and scale heights. Using the