

## [XGC-26] Progress Report : Quantifying and Classifying Peculiarity of Cluster Galaxies

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In the LCDM paradigm, hierarchical merging is thought to play a key role in the formation and evolution of massive galaxies. Theoretical and observational studies suggest that massive galaxies started forming at high redshifts and were assembled via numerous mergers. Galaxy clusters are the sites where the most massive galaxies are found and the most dramatic merger histories are embedded. The previous work of Sheen et al. (2012) identified via visual inspection many massive galaxies with merger features in clusters, which surprised the community. In this study we aim to quantify peculiarity of galaxies to pin down the merger frequency in cluster environments more objectively. We have performed optical deep imaging of 4 Abell clusters by using IMACS f/2 on a Magellan Badde 6.5-m telescope. For the galaxies in our data, we applied GALFIT algorithm, which fits analytic models to galaxy data, and we analyzed their residuals. We present the preliminary results of our sample galaxies.

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## [XGC-27] F-GAMMA with KVN

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The F-GAMMA (FERMI-GST AGN Multi-frequency Monitoring Alliance) project is a program for the monthly monitoring of the broad-band spectra of currently about 90 selected Fermi-GST AGNs. F-GAMMA utilizes several facilities in cm, mm, sub-mm, infrared and optical bands, achieving an unprecedented coverage for the study of the spectral evolution of powerful relativistic jets in AGNs. The KVN joined the F-GAMMA project in May 2011, aiming to monitor flux density at 22 and 43 GHz. We present the preliminary results of flux density variability, evolution of spectral index, and modulation index.