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Deep r-band imaging of CLoGS galaxy groups

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Galaxy groups offer an excellent opportunity to study the impact of galaxies on their intergalactic medium (IGM), and vice versa, as the galaxy's heating process effects are more visible due to the groups' lower density and mass compared to clusters of galaxies. This project is part of an optical observational campaign to observe the Complete Local-Volume Groups Sample (CLoGS), which is a statistically-complete sample of 53 groups within 80 Mpc, with radio observations (GMRT & VLA), X-ray bands, and sub-mm (IRAM-30m) data already available for the entire sample.

For this project, we are interested in the surface brightness profiles of the central, dominant elliptical galaxies in the groups, to obtain stellar mass profiles and structural parameters e.g. size of the cores of the galaxies. Here, we present Multi-Gaussian Expansion (MGE) fits to the r-band (or equivalent) images of 35 central group galaxies, from archival Hubble Space Telescope (HST) imaging and MegaCam / Canada-France-Hawaii Telescope (CFHT) r-band images. For 12 groups, we also present new CFHT MegaCam observations obtained in 2018/2019.

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MSc.

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