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A multi-band view on the evolution of group central galaxies

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Much of the evolution of galaxies takes place in groups that occupy the interesting intermediate-mass range, where feedback has the greatest impact on galaxy formation and evolution. By using multi-band data (FUV, Mid-IR, Radio, CO, and X-rays), and an optically selected, statistically complete sample of 53 groups (< 80 Mpc; CLoGS sample) the galaxy evolution and star-formation activity of the central group dominant early-type galaxies is examined in relation to their gas content, AGN activity and local environment. The majority of the group dominant galaxies (87%; 41/47) are found to be passive systems without any significant star-forming activity, with the rest of the highest star-forming systems found to present significant cold gas detections, residing in X-ray faint groups (X-ray halo <65 kpc) and none hosting a powerful radio source (P1.4GHz>10ˆ23 W/Hz). As galaxy groups are a favorable environment for both cooling flows and gas-rich galaxy mergers and interactions, the significant role of both processes on the origin of cold gas and the fuelling of an AGN or star-formation will be discussed along with results on the properties of the highest star-forming systems and the implications on AGN feedback in galaxy groups.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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