

Accurate number densities and environment for compact and relic massive galaxies.

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Abstract

The quest to find relic galaxies is ongoing, i.e. galaxies that seem to remain untouched from the primeval Universe. These galaxies are usually massive ($> 8 \times 10^{10} M_{\odot}$), with very small sizes (effective radius < 2 Kpc) and with old (> 10 Gyr) stellar populations. Observationally, it is not well tested whether these objects live in galaxy overdensities, as simulations predict. Additionally, their number densities in the nearby Universe ($z < 0.3$) are also under debate, due to the lack of large area spectroscopic surveys. To top it up, their sizes and structural parameters are not very reliable due to the shallow ancillary imaging of previous works, typically SDSS. I take advantage of the GAMA spectroscopic survey, in the KiDS and VIKING fields (~ 150 deg², 2 mag deeper) to create a complete census of this elusive galaxy population. Each of the galaxies in my sample, surprisingly being many of them satellites of bigger objects, are a treasure trove to understand the properties of the high redshift Universe. (See poster).