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SALT spectroscopy of gas-rich galaxies in Fornax A

The Fornax Cluster is currently experiencing active assembly of mass. It has a lower-density group surrounding the radio galaxy NGC1316 (Fornax A) currently falling into the cluster. Infalling groups are ideal environments to study the transformation in the properties of the multi-phase gas due to e.g. tidal interactions and ram pressure stripping due to the velocity change at the boundary between the group and cluster. We have optical and H-alpha imaging of Fornax A, and also obtained MeerKAT data, which for the first time resolved HI emission in different substructures in the subgroup, often coinciding with detections in H-alpha. We then obtained spectroscopy of 11 gas-rich galaxies on SALT (Southern African Large Telescope). In this study, a combination of spectral fitting routines are used to accurately separate stellar continuum and absorption lines from the ionized gas emission in the observed SALT spectra, and to measure gas as well as stellar population properties. We will present our latest results from the SALT spectral analysis, which will ultimately be combined with the information obtained from the various other multi-wavelength observations to fully understand the physical processes and the multi-phase gas.

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

Yes

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

MSc

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