
Huge intra-group ionised gas structure in a $z \sim 0.7$ group

Benoît Epinat^{*1,2}

¹Laboratoire d'Astrophysique de Marseille (LAM) – INSU, CNRS : UMR7326, Aix Marseille Université
– Pôle de l'Étoile Site de Château-Gombert 38, rue Frédéric Joliot-Curie 13388 Marseille cedex 13,
France

²Institut de recherche en astrophysique et planétologie – Université Paul Sabatier - Toulouse 3,
Observatoire Midi-Pyrénées, Centre National de la Recherche Scientifique : UMR5277 – France

Abstract

The environment is expected to play a major role in the galaxy mass assembly processes, star formation quenching, morphological transformation of galaxies and gas redistribution at large scales. In those environments, galaxy interactions are more frequent and can impact efficiently the gas reservoir in groups and around galaxies.

I will report the serendipitous discovery of a huge ($> 100\text{kpc}$) ionised gas structure encompassing a dozen of galaxies in a group at $z \sim 0.7$ in the frame of an MUSE-GTO observing program aimed at studying galaxy evolution in groups. I will present the analysis we have performed on this unique structure of intra-group/circum-galactic medium at $z \sim 0.7$ to understand the amount of gas involved in it, its origin as well as the mechanisms responsible for its ionisation (Epinat et al. 2018). I will also explain the implications of this discovery on the evolution of groups and of galaxies inside them.

*Speaker