# Ram-pressure stripping in Coma cluster as a driver of dwarf galaxy evolution

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**Résumé**

Galaxy clusters are the largest gravitationally bound structures in the Universe. Numerical simulations provide detailed scenarios on how they assemble and evolve over the lifetime of the Universe, but observational evidences supporting these predictions are still elusive. Galaxy populations in nearby clusters are dominated by dwarf stellar systems, and the number of these galaxies continues to grow over time even at the present epoch.Over the last 5 years, using MMT Binospec we collected a rich spectroscopic dataset, which comprises over 250 dwarf early-type galaxies in three massive nearby clusters: Coma (D=99 Mpc), Abell 2147 (D=165 Mpc), and Abell 168 (D=193 Mpc). We have also reduced and analyzed spectra of dwarf galaxies in the Virgo cluster (D=16.5 Mpc) publicly available in the Keck, Gemini, and VLT data archives. These spectroscopic datasets were complimented by re-reduced archival deep optical images from Subaru HSC and CFHT MegaCam instruments where we used our own sky background modeling technique that allows to achieve an accurate background subtraction. For every galaxy we have a spatially resolved optical spectrum reaching up to 1-2 half-light radii from its center that was used to obtain their internal properties, such as stellar kinematics, ages and chemical composition of their stars and perform Jeans dynamical modelling, which yields dark matter content and dynamical masses. Profiles of radial velocity for a dozen of dEs in the Coma cluster demonstrate quite a large fraction of kinematically decoupled cores suggestive of relatively recent mergers. These datasets allow us to consider several various scenarios of dE galaxy formation and evolution and put them in correspondence with different dE sub-classes. With these data we can directly test the applicability of the abundance matching to galaxies in clusters in the 3x10ˆ8–5x10ˆ9 MSun range in stellar mass.

**Mots-Clés:** ram pressure stripping, dwarf galaxies

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