
Ram-pressure stripping of galaxy groups falling onto massive clusters

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Résumé

At present times, the peak of the halo mass density occurs at the scale of galaxy groups, i.e. dark matter halos with a mass on the order of 10^{13} solar masses. As such, the most massive galaxy clusters in the Universe, which represent the culmination of the structure formation process, gather a large fraction of their mass through the successive accretion of group-scale halos. During the infall, the gaseous content of the infalling groups gets stripped from its original halo by the ram pressure of the surrounding hot ICM, which can lead to Mpc-long gas trails opposite to the direction of motion. In the framework of an observing program dedicated to the deep X-ray mapping of a set of 13 galaxy clusters out to their virial radius, we discovered several spectacular examples of ram-pressure stripping of galaxy groups, which provide invaluable insights on the growth of structure process at present times and allows us to study in detail the impact of the hot ICM on the denser and cooler group atmosphere. I will present the results of deep observations of these systems and what we have learned from them on the virialization of infalling material.

Mots-Clés: galaxy groups, hot gas, ram, pressure stripping, growth of structures

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