

# Cosmological Constraints from Galaxy Cluster Mass Profiles

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Galaxy clusters are the large structures in the universe. Host in massive dark matter halos, they are the ultimate result of hierarchical bottom-up process of cosmic structure formation. The non-linear gravitational collapse of matter which drives the mass assembly of galaxy cluster leaves a cosmological imprint on the abundance, spatial clustering and internal structure. Because of this, galaxy clusters can be considered as a laboratory of astrophysics and cosmology. In this talk I will review how cosmological information gets imprinted on the mass profile of halos and how it can be retrieved through a non-parametric proxy of the mass distribution in galaxy clusters, such as to provide constraints on the cosmological parameters complementary to those of other cluster probes.

**Orateur:** CORASANITI, PierStefano