

Lista de lucrări

Pășcuț Aurelia

- Pascut A. & Ponman T. J., 2015, Monthly Notices of the Royal Astronomical Society, 447, 3723

We report the results of a study which assembles deep observations with the ACIS-I instrument on the *Chandra Observatory* to study the evolution in the core properties of a sample of galaxy groups and clusters out to redshifts $z \approx 1.3$. A search for extended objects within these fields yields a total of 62 systems for which redshifts are available, and we added a further 24 non-X-ray-selected clusters, to investigate the impact of selection effects and improve our statistics at high redshift. Six different estimators of cool core strength are applied to these data: the entropy (K) and cooling time (t_{cool}) within the cluster core, the cooling time as a fraction of the age of the Universe ($t_{\text{cool}}/t_{\text{Uni}}$), and three estimators based on the cuspidity of the X-ray surface brightness profile. A variety of statistical tests are used to quantify evolutionary trends in these cool core indicators. In agreement with some previous studies, we find that there is significant evolution in $t_{\text{cool}}/t_{\text{Uni}}$, but little evolution in t_{cool} , suggesting that gas is accumulating within the core, but that the cooling time deep in the core is controlled by AGN feedback. We show that this result extends down to the group regime and appears to be robust against a variety of selection biases (detection bias, archival biases and biases due to the presence of central X-ray AGN) which we consider.

- Pascut Aurelia, *Evolution of X-ray properties of galaxy groups*, ProQuest, 2017 (teza doctorat)