Department of Physics and Astronomy at University of Bologna

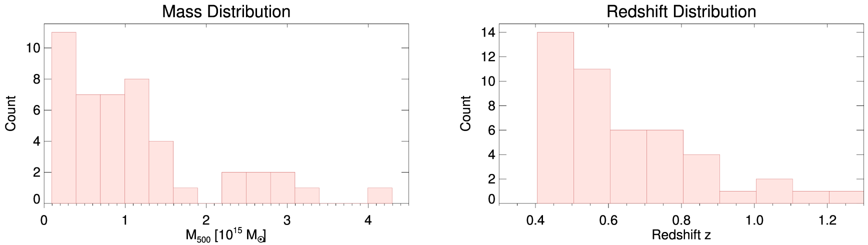
Entropy profiles at $z \in [0.4, 1.2]$

Vittorio Ghirardini

Athens: July 4-8, 2016

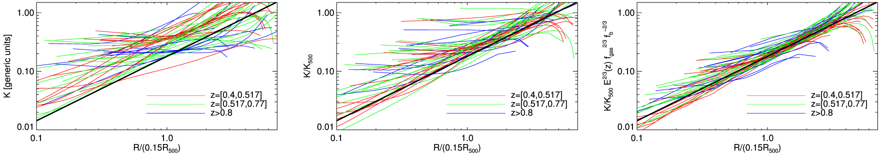
INAF

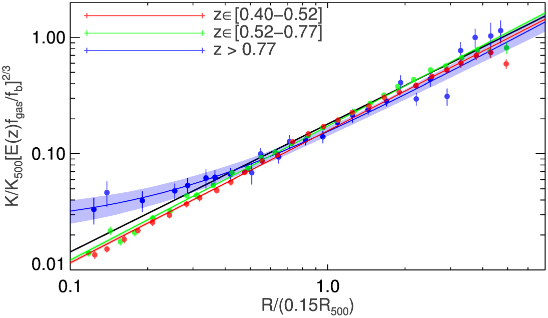
The data sample



- 47 Gakaxy clusters in redshift bins 0.4-1.2 (Amodeo et al.(2016))
- Observed with Chandra with at least 20 ks of exposure
- Exclude the one which present a disturbed X-ray morphology
- Apply NFW backward method to recover total mass and the thermodynamical quantities (Ettori+13)
- We remark that an X-ray selection should prefer CC systems (with lower K in the center) since they have a peaked central density

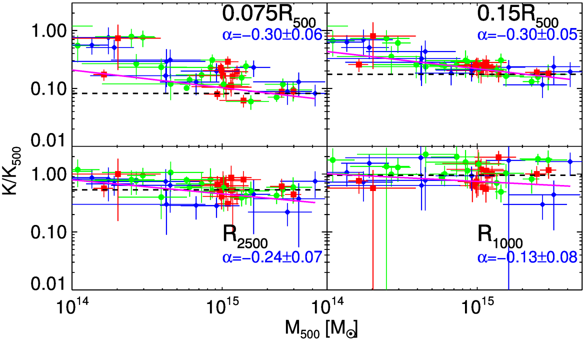
Main Results





- We see a clear evolution with redshift in the central regions (no resolution effect) even though X-ray selected objects should prefer CC systems

Conclusion



- The entropy profiles at different radii have a mass dependence that decreases as radii increases
- Agreement with numerical simulations is remarkable and improves at larger radii
- In our sample, clusters at $z > 0.77$ do not develop a low-K core as observed in systems at lower redshift