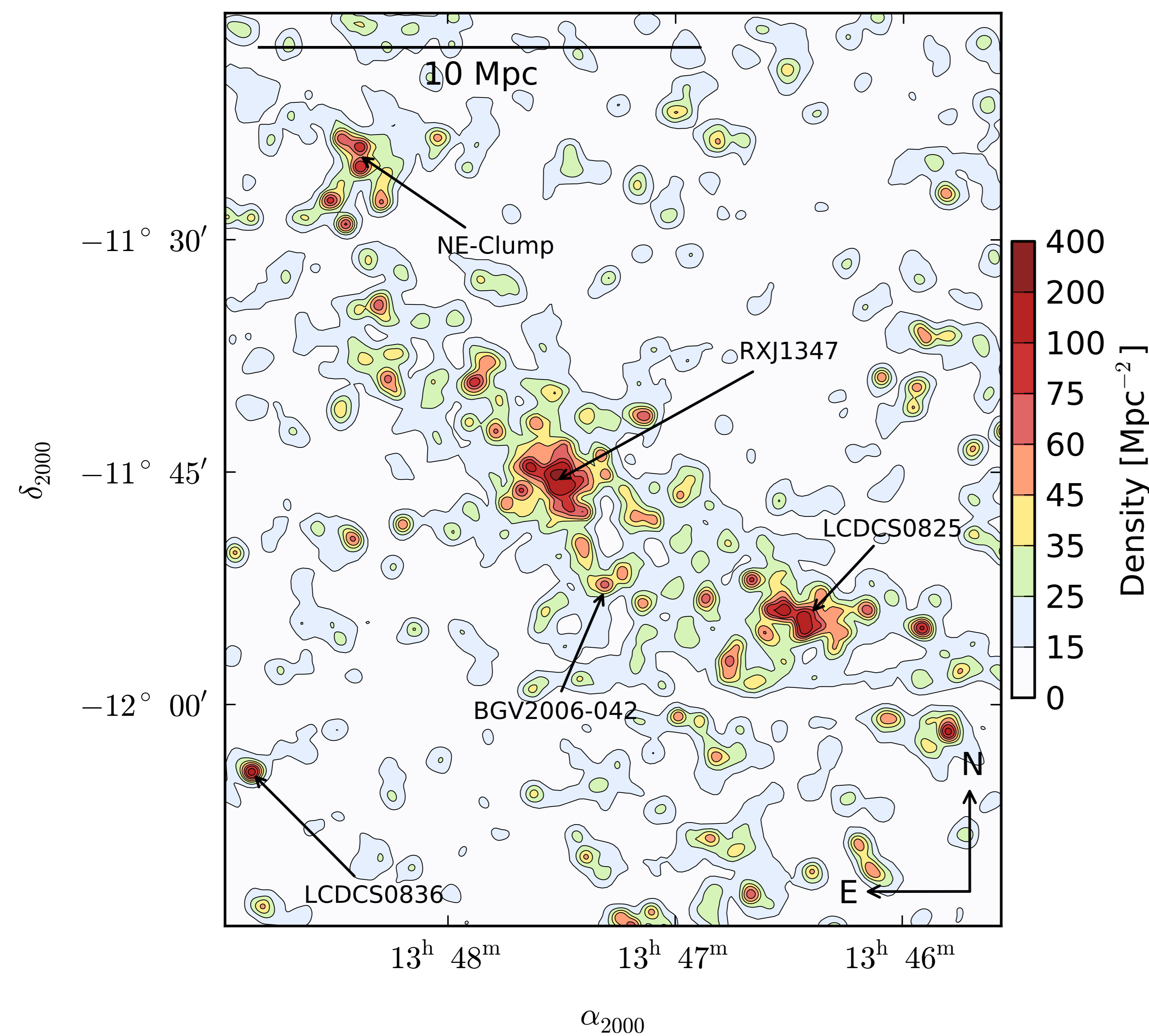


The Cosmic Web and galaxy evolution around the most X-ray luminous cluster

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A photometric and spectroscopic survey on the large scale structures around RX J1357.5-1145



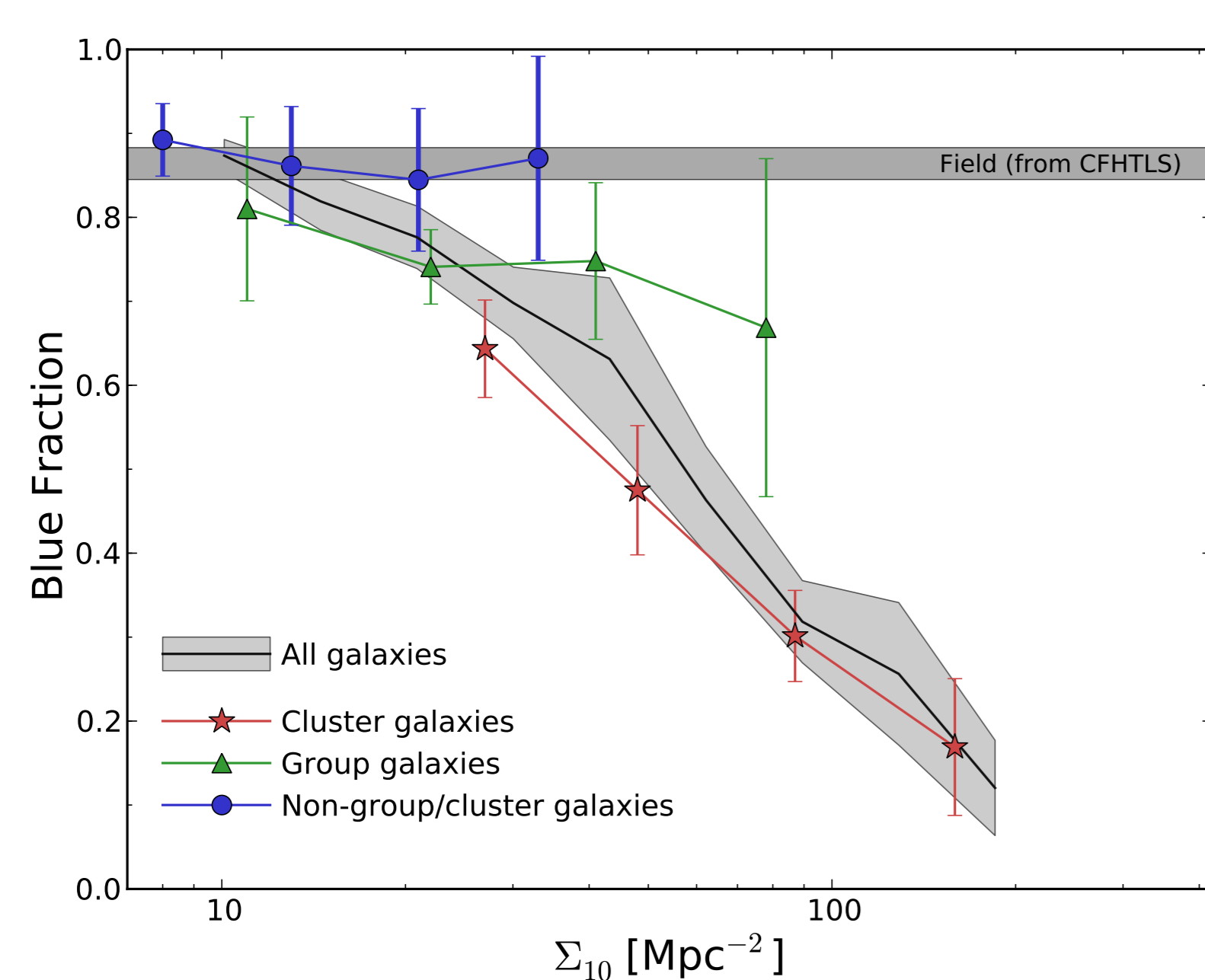
We present an update of our survey focused on the large scale structures around the X-ray luminous and massive cluster RXJ1347.5-1145 at $z = 0.45$ on scales of 20×20 Mpc. We have undertaken a large spectroscopic campaign with VIMOS at VLT (also in collaboration with the CLASH-VLT team) to study the evolution of galaxies as they fall into clusters.

These observations are complemented with deep *ugriz* CFHT MEGACAM photometry and GALEX NUV observations from which we have obtained additional parameters.

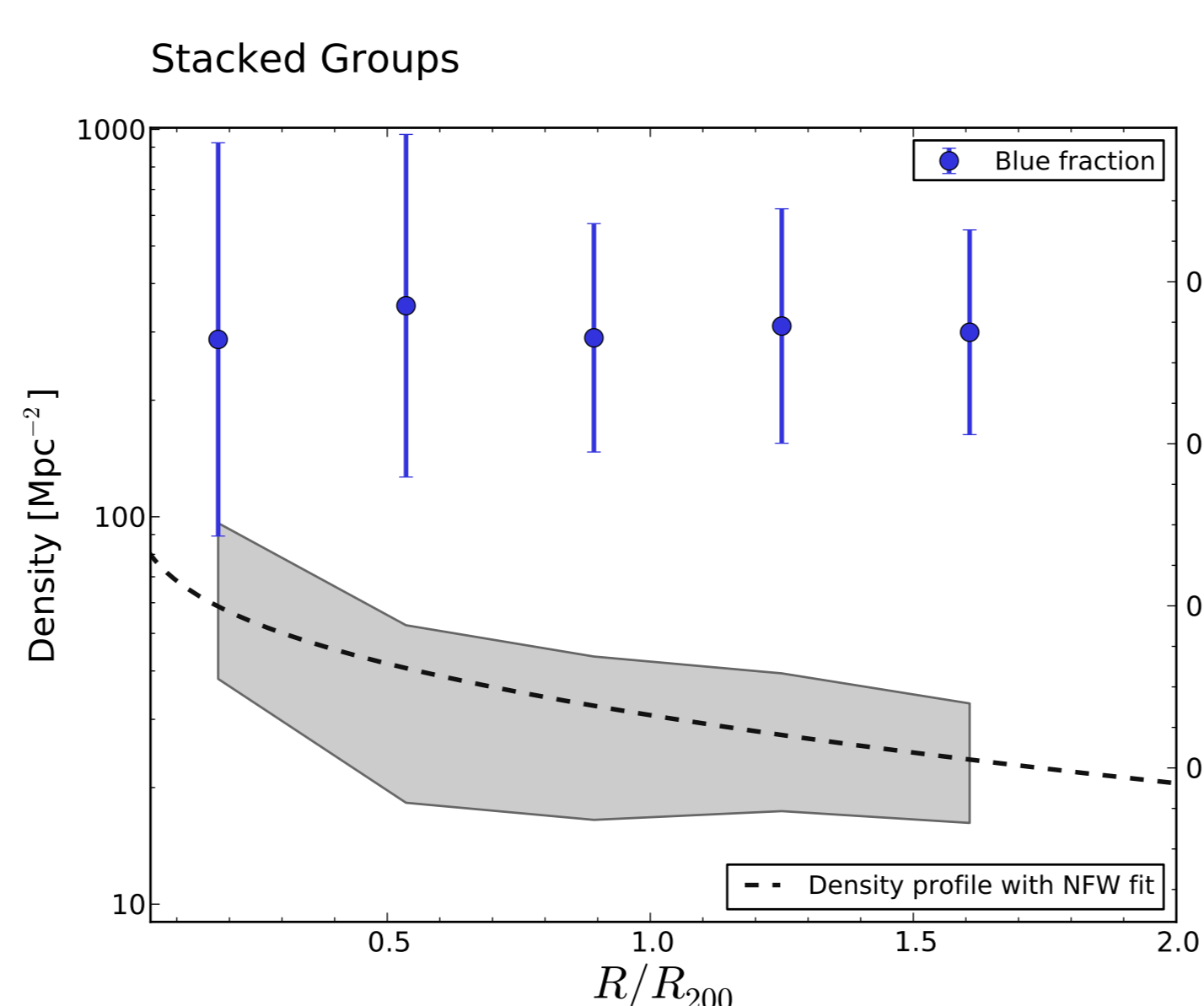
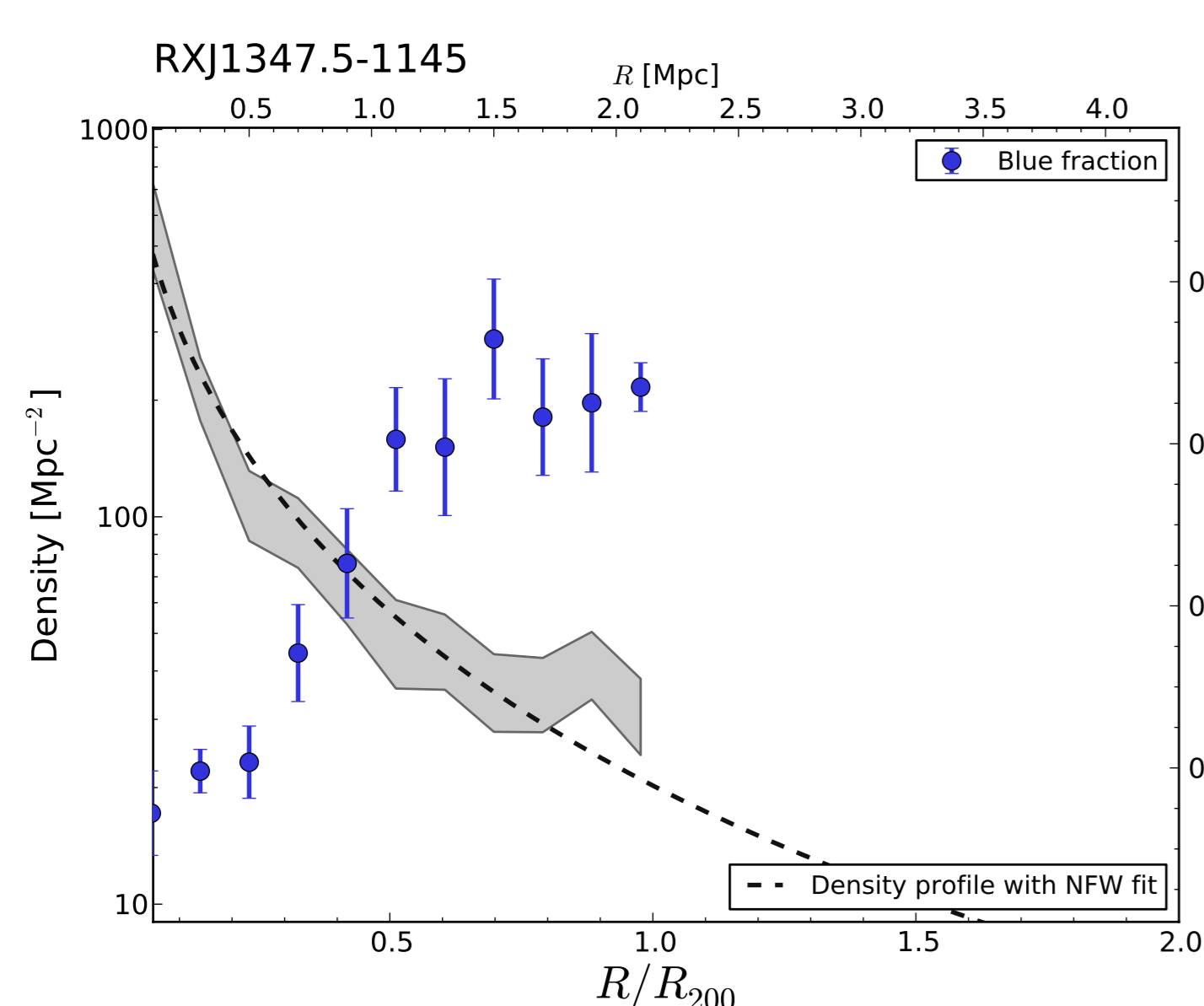
We have found that the cosmic web around this cluster extends for at least 20 Mpc in the NE-SW direction, where many groups, filaments and subclumps are found. The central cluster dominates this structure but two additional massive systems are also part of it.

For additional details please see Verdugo et al. 2012. New results are part of this poster.

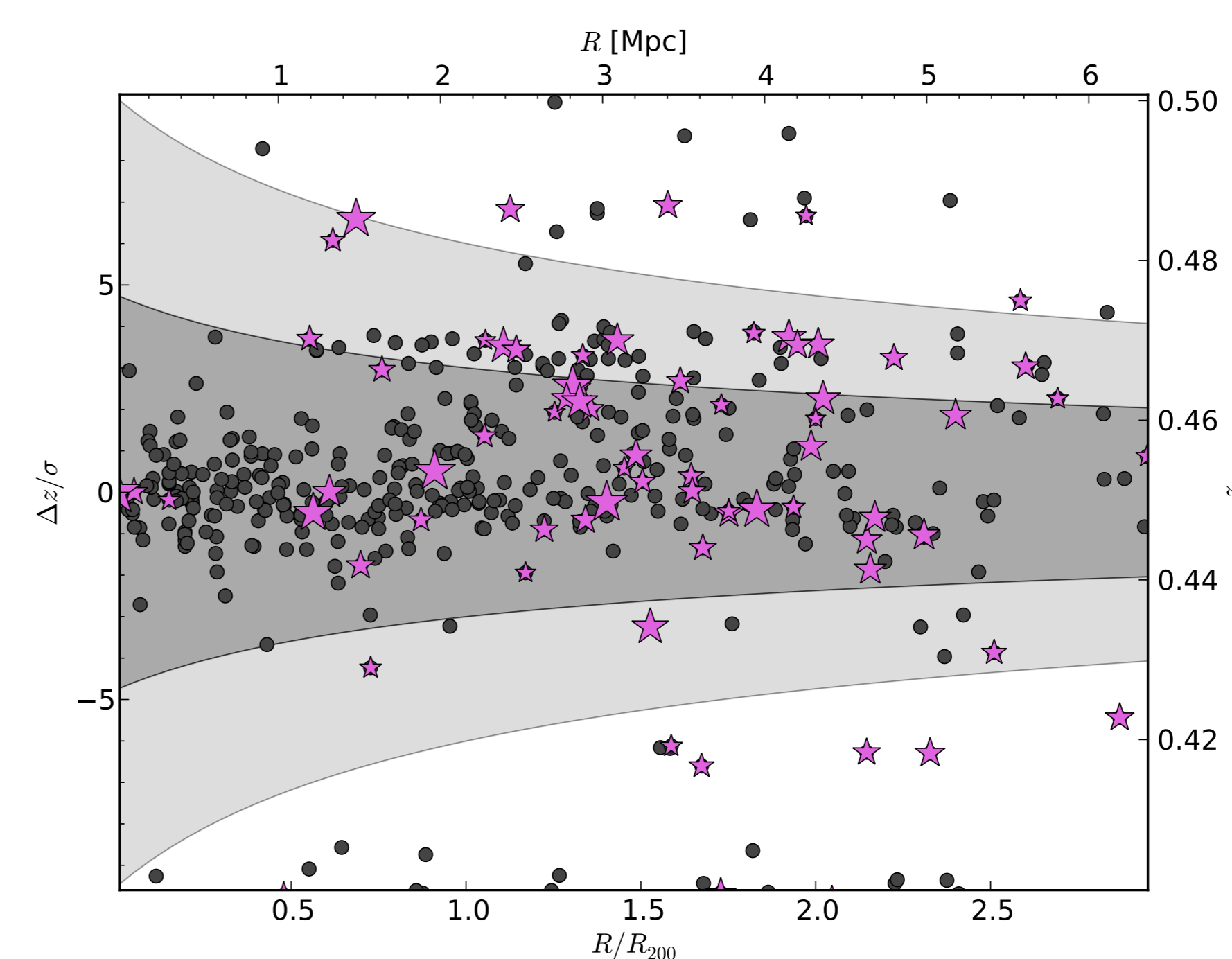
Environmental effects



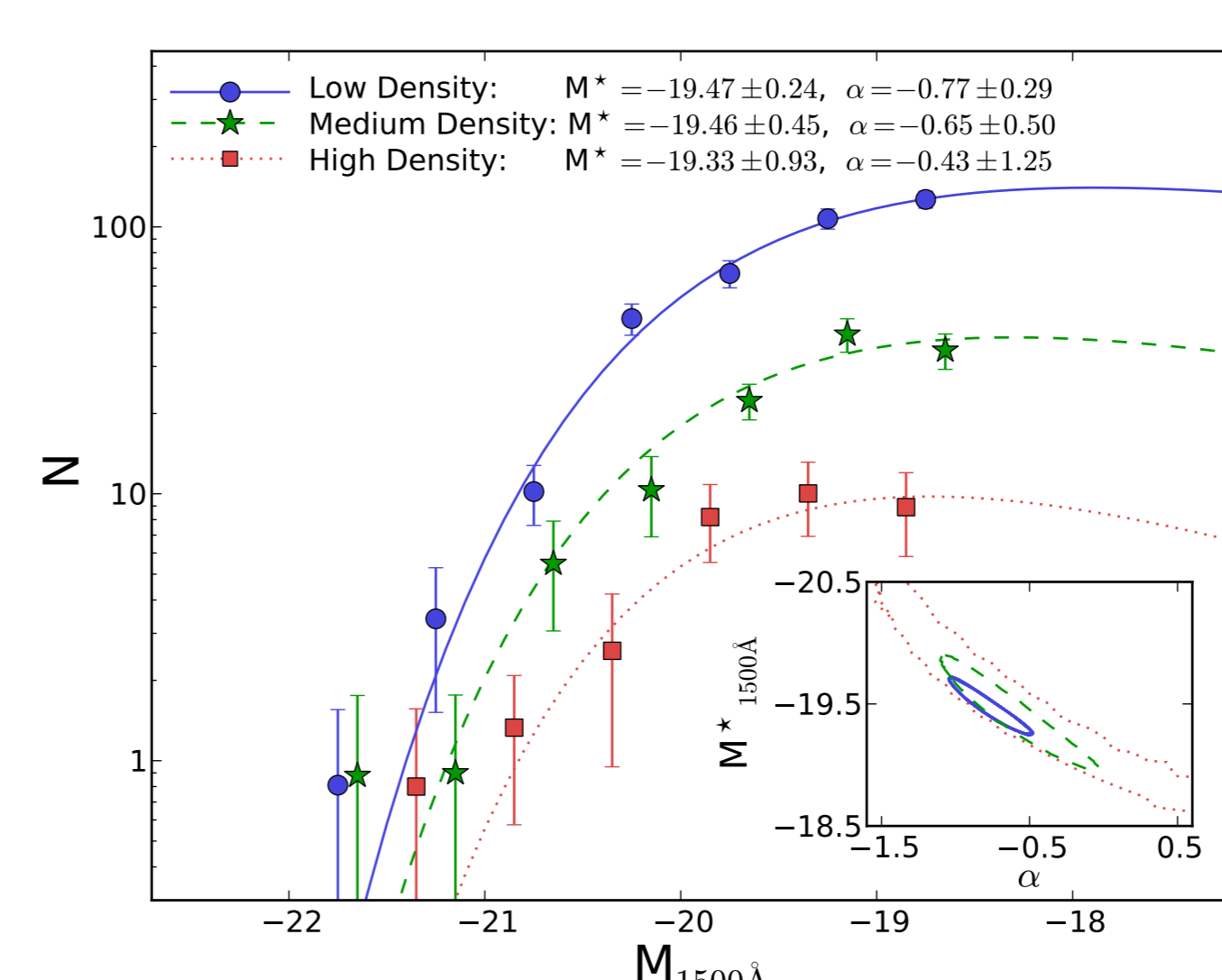
Massive systems ($M_{200} > 10^{14} M_{\odot}$) dominate the environmental effects in the galaxy populations. After excluding cluster members belonging to the three massive systems, the environmental correlation of F_{blue} becomes weaker or non-existent. This is confirmed either using nearest neighbour densities (left) or cluster/group centric distances (below).



The star-forming population



Segregation of the star-forming galaxies in the velocity-space phase diagram. Galaxies within the darker area are cluster members. The lighter area marks the infall region. Stars are the UV GALEX emitters with sizes related to their luminosities.



Properties of the star-forming galaxies show also little dependence with environment including their UV luminosity function, extinction and average colors, arguing for fast quenching, possibly related to processes occurring in clusters of galaxies.