



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

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X-ray properties of clusters in the C-EAGLE simulations

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Cluster outskirts are an area of great interest as they contain a wealth of information as to how the hot intracluster medium (ICM) forms and contributes to the growth of large scale structures. With the advent of *Athena*, measurements of the ICM should be possible beyond the virial radius. To this end, we present the metallicity profiles and distribution of different metals for the C-EAGLE simulation, a suite of 30 massive galaxy clusters ($M_{500} > 10^{14} M_{\text{sun}}$), focussing on the cluster outskirts, $r > R_{200}$.

We also present the CELR (C-EAGLE at low resolution) sample, for which we have investigated how using mock X-ray temperatures combined with mock X-ray density profiles leads to more biased estimates for the mass of more massive clusters. We have found that this bias can be improved by including a model for non-thermal pressure, but a mass dependence of the bias is still seen.

Topic

Hot and diffuse baryons

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