

Linking a universal gas density profile to the core-excised X-ray luminosity in galaxy clusters up to $z \sim 1.1$ (Corrigendum)

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There were errors in two of the equations in our original publication (Pratt et al. 2022). The first error appears in Eq. (3), where the quantity in question should be 500 times the critical density of the Universe, and so it becomes

$$\rho_{500} = 500 \rho_c(z) = 4.603 \times 10^{-27} E(z)^2 \text{ g cm}^{-3}. \quad (1)$$

The second error appears in Eq. (18), where the numerical factor for the normalisation, f_0 , should have been

$$f_0 = 1.20 \pm 0.15. \quad (2)$$

The gas mass fraction corresponding to this value of the normalisation is then $f_{\text{gas}} = 0.13 \pm 0.01$.

As a consequence of the above-mentioned points, the normalisation of the plots in Fig. 4 of Pratt et al. (2022) was also incorrect. The plots with the correct normalisation are shown below.

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References

Pratt, G. W., Arnaud, M., Maughan, B. J., & Melin, J. B. 2022, *A&A*, 665, A24

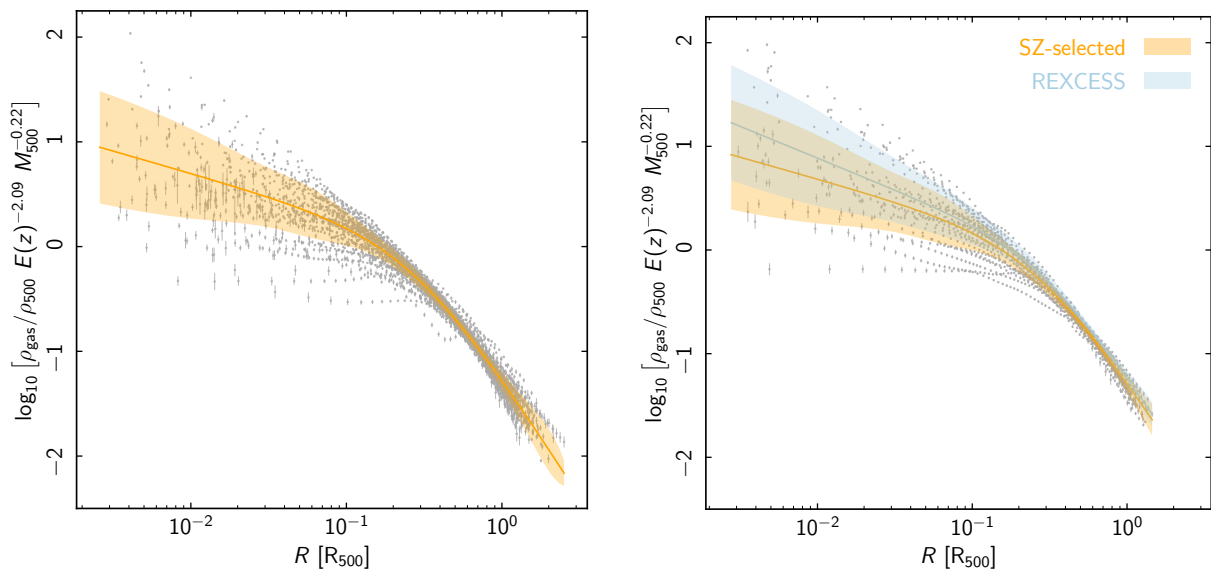


Fig. 1. Universal cluster ICM density profile. *Left:* Scaled density profiles of the SZE-selected clusters (grey points), overplotted with the best-fitting GNF model with free evolution and mass dependence: $\rho_{\text{gas}}/\rho_{500}(R/R_{500}) \propto E(z)^{\alpha_z} M^{\alpha_M}$ with $\alpha_z = 2.09 \pm 0.02$ and $\alpha_M = 0.22 \pm 0.01$ (orange line). The model includes a radially varying intrinsic scatter term (orange envelope). *Right:* Comparison of the best-fitting model, defined on the SZE-selected sample, to the best-fitting model for the X-ray-selected REXCESS sample (light blue). Here, the points with error bars are the REXCESS sample.