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## Impact of the complex morphology of a cluster on thermodynamical quantities: PSZ2G091

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PSZ2G091 is a massive galaxy cluster with  $M_{500} = 7.43 \times 10^{14} M_{\text{sun}}$  at  $z = 0.816$ . This object exhibits a complex morphology with a clear bimodality observed in X-rays. However, it was detected and analyzed in the Planck sample as a single, spherical cluster. This simplified model can lead to miscalculations of thermodynamical quantities, like the pressure profile. The effect then propagates on Y500 measurements and impacts the selection function of SZ detected clusters. As future SZ cluster samples will detect more and more objects at higher redshifts (where we expect the fraction of merging objects to be higher), it is crucial to quantify this systematic.

In this presentation, we use high-resolution observations of PSZ2G091 by the NIKA2 camera to integrate the morphological characteristic of the cluster in our modeling. We then compare these results with the spherical assumption and extrapolate the impact of this systematic on current and future samples.

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