

A report on VSA interferometer observations of the supercluster Corona Borealis

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We present interferometric imaging at 33 GHz of the well known Corona Borealis supercluster, using the Very Small Array. The aim of these observations is to search for either SZ detections from known clusters, or extended SZ detections due to diffuse gas, located in the inter-cluster medium. Hydrodynamic simulations suggest that a significant part of the missing baryons are likely to be part of this kind of structures. In order to explore the whole supercluster, we observed 9 fields (primary beam FWHM = 2.1 degrees), mosaicing the core of the supercluster, and reaching a sensitivity of ~ 18 mJy/beam. To remove the most important radio sources from the data, we made a selection from the NVSS and GB6 catalogues, and observed them simultaneously and independently with the source subtractor baseline. We have detected two intriguing strong negative features near the centre of the supercluster core. We discuss the possibility of being caused by CMB fluctuations, or SZ signals related to either unknown far clusters or to diffuse extended warm/hot gas.

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