
Revealing missing baryons in the cosmic web using the Sunyaev-Zel'dovich effect

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Abstract

In the context of the standard model, observations of galaxies and galaxy clusters in the local universe can not fully account for the baryon content inferred from measurements of the cosmic microwave background and from big bang nucleosynthesis. Locating the missing baryons has been one of the major challenges in cosmology. Cosmological simulations predict that they are spread throughout filamentary structures in the cosmic web, forming the warm-hot intergalactic medium (WHIM). I will present a recent detection of WHIM in 15 Megaparsec-long filaments through the thermal Sunyaev-Zel'dovich effect by stacking pairs of galaxies in the SDSS area. Part of the results will be based on this paper: <https://arxiv.org/abs/1709.10378>.

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