



ID contributo: 44

Tipo: non specificato

Cosmology with the SZ spectrum: measuring the Universe's temperature with galaxy clusters

martedì 29 giugno 2021 14:25 (25 minuti)

The hot gas in clusters of galaxies creates a distinctive spectral distortion in the cosmic microwave background (CMB) via the Sunyaev-Zel'dovich (SZ) effect. The spectral signature of the SZ can be used to measure the CMB temperature at cluster redshift ($T_{\text{CMB}}(z)$) and to constrain the monopole of the y-type spectral distortion of the CMB spectrum. In this work, we start showing the measurements of $T_{\text{CMB}}(z)$ for a sample extracted from the Second Catalog of galaxy clusters produced by Planck (PSZ2) and containing 75 clusters selected from the Heritage project of the ESA X-ray satellite XMM-Newton. Then we show the forecasts for future CMB experiments about the constraints on the monopole of the y-type spectral distortion of the CMB spectrum via the spectrum of the SZE.

Autore principale: LUZZI, Gemma (ASI Space Science Data Center)

Relatore: LUZZI, Gemma (ASI Space Science Data Center)