Contribution ID: **65** Type: **Talk**

Falsifying the standard cosmological model

Thursday 15 December 2022 16:00 (15 minutes)

In the standard cosmological model the universe is assumed to
be statistically isotropic & homogeneous when averaged on large scales. The dipole anisotropy of the CMB is ascribed to our peculiar motion due to local inhomogeneity. There should then be a corresponding dipole in the sky map of high redshift sources. Using catalogues of radio galaxies and quasars we find that this expectation is rejected at >5σ. This undermines the standard practice of boosting to the 'CMB frame'to analyse cosmological data, in particular for inferring an isotropic acceleration of the Hubble expansion rate which is interpreted as due to Λ.

Session

Astroparticle Physics and Cosmology

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Session Classification: WG1-Astroparticle Physics and Cosmology