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Dipole Cosmology: The Copernican Principle Beyond FLRW

We present a Dipole Cosmological Principle", the idea that the Universe has the maximal symmetry consistent with a cosmic flow. It serves as the most straightforward paradigm that generalizes the FLRW ansatz in the context of the increasingly emerging (tentative) hints that CMB might have a non-kinematic dipole. Einstein's equations in ourdipole cosmology" are still ODEs. However, the number of field equations has increased, attributing two new functions, viewed as an anisotropic scale factor that breaks the isotropy group and a tilt" that captures the cosmic flow velocity. We discuss the dynamics of expansion rate, shear and tilt for different cases. A key observation is that the cosmic flow can grow even while thenormal shear" dies down.

Authors: Prof. KRISHNAN, Chethan; Prof. SHEIKH-JABBARI, Mohammmad Mahdi; MONDOL, Ranjini

Presenter: MONDOL, Ranjini