Contribution ID: **46** Type: **Parallel talk**

Reappraisal of Hemispherical Power Asysmmetry in CMB temperature data after Planck PR4

Tuesday 15 October 2024 14:45 (15 minutes)

In this work we present our analysis of one of the prominent "anomalies" of CMB sky, the "hemispherical power asymmetry (HPA)", from the latest fullsky CMB maps from Planck satellite mission's Public Release 4. The data is analyzed from various perspectives to understand the nature of HPA better viz., a re-estimation of the magnitude and direction of HPA and the corresponding significance, consistency of the recovered amplitude and direction. We do so using the Local variance estimator (LVE) method. We find that the CMB hemispherical power asymmetry, phenomenologically modeled as a dipole modulation of an otherwise statistically isotropic CMB sky, is robust against all these tests and appears indeed to be a cosmic signal.

Track type

CMBR

Author: SANYAL, SANJEEV (INDIAN INSTITUTE OF TECHNOLOGY (BHU), VARANASI, INDIA.)

Co-author: Dr ALURI, Pavan Kumar (INDIAN INSTITUTE OF TECHNOLOGY (BHU), VARANASI, INDIA.)

Presenter: SANYAL, SANJEEV (INDIAN INSTITUTE OF TECHNOLOGY (BHU), VARANASI, INDIA.)

Session Classification: Parallel - Cosmology