

# JOINT TUFTS/MIT COSMOLOGY SEMINAR

---

## *The Cosmic Dipole Anomaly*

Sebastian von Hausegger  
Oxford

We perform a fundamental consistency check of the standard cosmological model by comparing the rest frames of matter and radiation in which they are isotropic. The measured dipole anisotropy in the sky distribution of cosmologically distant AGN is significantly discrepant with that of the CMB, so they cannot both be explained by our local peculiar motion. Having exceeded the 5-sigma level, the cosmic dipole anomaly is among the most significant tensions in cosmology. I will provide an overview of the dipole anomaly and discuss concerns about both observational systematics and theoretical issues. I will detail our analyses of radio and mid-IR data and report on new theoretical work pertaining to future redshift-dependent measurements.

Tuesday, September 30, 2025, 2:30 pm

Cosman Seminar Room

Center for Theoretical Physics

Building 6C, Room 6C-442

Massachusetts Institute of Technology