

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Cosmic variance, statistical naturalness and non-Gaussianity

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The possibility of measuring or constraining correlations of the primordial curvature fluctuations beyond the power spectrum has opened up promising new avenues to differentiate models of inflation. Interestingly, mode coupling also introduces a new and significant uncertainty in matching observations to theory. In a universe much larger than our current Hubble scale, our local background may not agree with the global background used to define homogeneous and isotropic perturbations. If modes are coupled, the observed statistics in our Hubble volume (including the amplitude of non-Gaussianity) may depend on the long wavelength background which is not independently observable to us. In particular, if the universe is substantially larger than what we observe, a small value of local type non-Gaussianity may be statistically natural. I will discuss the implications of the Planck satellite results and the potential of future data to constrain primordial physics in light of this effect.

Tuesday, October 8, 2013, 2:30 pm
Robinson Hall, Room 250
Tufts University

Refreshments at 2:00 in Knipp Library, Room 251