

Theory Seminar

Monday, December 6, 2010 2:10 PM 831 Pupin Hall

PRIMORIDAL NON-GAUSSIANITY AND LARGE-SCALE STRUCTURE

Cosmological probes of primordial non-Gaussianity have recently attracted much attention due to its ability to discriminate between different inflationary models. In this talk I will present the signatures of primordial non-Gaussianity on large-scale structure. I will first describe its effect on the distribution of the underlying dark matter field. I will then show how to generalize Doroshkevich's celebrated formulae for the eigenvalues of the initial shear field associated with Gaussian statistics to the local non-Gaussian $f_{\{nl\}}$ model. Next I will discuss how to extend the excursion set approach to compute the halo mass function when the primordial perturbation is non-Gaussian. Finally I will talk about how the pairwise velocity will be affected. The results will then compare with measurements from N-body simulations.

Tsz Yan Lam, IPMU, Japan

