

JOINT TUFTS/MIT COSMOLOGY SEMINAR

The Effective Field Theory of Cosmological Structure Formation

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Since the matter density fluctuations in the universe are linear on large scales and nonlinear on small scales, a consistent long distance description requires integrating out the strongly coupled short distance modes and building an effective field theory. This reorganizes the matter into a type of fluid, with associated parameters, that describes cosmological structure formation. I will describe (i) the properties of this fluid on sub-horizon scales, (ii) its renormalization and perturbation theory, (iii) the explicit measurement of its fluid parameters, and (iv) the computation of the power spectrum.

Tuesday, October 16, 2012, 2:30 pm
Robinson Hall, Room 250
Tufts University

Refreshments at 2:00 in Knipp Library, Room 251