

TUFTS UNIVERSITY
Physics and Astronomy Colloquium

**“Cosmology on a Moving
Mesh”**

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Understanding the formation and evolution of galaxies in a cosmological context using numerical simulations remains an elusive goal. In this talk, I describe a new approach to modeling the hydrodynamics of galaxy formation in which the equations of motion are solved on a moving mesh. The use of a moving mesh makes the scheme fully Lagrangian, unlike popular particle-based codes which are quasi-Lagrangian in nature, and mitigates against advection errors when a spatially fixed grid is used. I present results from an initial study comparing results for a moving mesh with those obtained using a smoothed particle hydrodynamics solver. This preliminary work suggests that the new approach offers promise for resolving the long-standing problems which have plagued this field for nearly two decades.

3:00 pm

Friday, February 10, 2012

Robinson 253

Medford Campus

Refreshments served at 2:30 in The Knipp Library, Room 251