



PHYSICS AND ASTRONOMY COLLOQUIUM

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“Cosmology in Our Backyard”

Abstract

The LCDM cosmological model accounts for an impressive array of data on the large-scale structure of the universe, from scales of a few megaparsecs to a few gigaparsecs. On submegaparsec scales, however, the model cannot be tested with the same degree of rigour as on larger scales where microwave background radiation data and measures of galaxy clustering provide clean and well-understood diagnostics. Yet, it is precisely on these small scales that the nature of the dark matter manifests itself most clearly. I will discuss theoretical predictions for the small-scale structure of the universe which appear to be discrepant with recent kinematical data for satellite galaxies of the Milky Way. Possible solutions range from the relatively mundane that the mass of our galaxy is smaller than is often thought - through exotic baryonic processes to the more radical assumption that the dark matter is not what the standard theory assumes.

Tuesday, April 02, 2013

3:30 p.m.

Elliott Building

Room 168