

A NEW PROBLEM IN MODELING GALAXY FORMATION

Prof. Oleg Gnedin
University of Michigan

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Hydrodynamic cosmological simulations have often produced strongly bulge-dominated disk galaxies and failed to match bulgeless spirals with a flat rotation curve. The problem lies in the fast star formation at the galactic center at high redshift. This problem was only exacerbated by the recent advances in modeling star formation at higher density and in the molecular gas phase. I will discuss the current status of the cosmological simulations of massive galaxy formation and the two current alternatives for solving this “bulge problem”. I will present the results of a new suite of simulations of Milky Way-sized galaxies, run with the adaptive-mesh refinement ART code with 3D radiative transfer and molecular gas chemistry.

Astrophysics
Seminar

All interested
persons are
cordially
invited to
attend.