BOSTON UNIVERSITY

Boston University College of Arts & Sciences
Institute for Astrophysical Research

2021—2022 ASTROPHYSICS SEMINAR SERIES

Probing Cosmology with Magneticum Simulations

Hydrodynamic simulations enable us to recreate many realizations of the observed Universe for a variety of cosmological as well as sub-grid physics parameters. In today's talk, I present the multi-cosmology Magneticum simulations, the largest cosmological hydrodynamical simulations that include a full description of the physics of the baryonic component, run with fifteen different set of cosmological parameters. Additionally, some of these multi-cosmology simulations are also available with different gas physics realizations. These multi-cosmology simulations have been studied to constrain the cosmology dependence of mass-observable scaling relations. Our ongoing effort focuses on calibrating physically motivated analytical models of the hot cluster gas to mimic the cosmology dependence of these simulations.

Monday, March 14th

3:30 - 4:30 p.m.

See website for Zoom details

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Image credit: Klaus Dolag and Adelheid Teklu