

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Black Holes and the Multiverse

Jun Zhang
Tufts

Non-perturbative quantum effects during inflation, such as spontaneous nucleation of vacuum bubbles and domain walls can lead to the formation of structure on astrophysical scales. In this talk, I will show that these spontaneously nucleating bubbles and domain walls collapse after inflation, and form black holes of a wide mass spectrum. The resulted black holes could serve as dark matter or as seeds for supermassive black holes. Black holes produced in this scenario also have non-trivial space-time structures, which lead to the multiverse. In this sense, if a black hole population with the predicted mass spectrum is discovered, it could be regarded as evidence for inflation and for the existence of a multiverse.

Tuesday, March 8, 2016, 2:30 pm

Cosman Seminar Room

Center for Theoretical Physics

Building 6C, Room 6C-442

Massachusetts Institute of Technology

Refreshments at 2:00 in the same room