JOINT TUFTS/MIT COSMOLOGY SEMINAR

Gravitational waves from the early Universe and cosmic Domain Walls

Fabrizio Rompineve

IFAE

New Physics in the early Universe may feature sources of gravitational waves (GWs), that can be searched for at interferometers and Pulsar Timing Arrays (PTAs). After providing an overview of general properties of cosmological GWBs that can help in distinguishing them from astrophysical signals, we focus on cosmic topological defects (specifically, domain walls) as a well-motivated possible source of GWs in the early Universe. After introducing the general properties of domain wall networks and their particle physics implementation, we present recent progress in the description of their cosmological evolution and their GW signal. Finally, we discuss the possibility to produce primordial black holes from the collapse of domain walls.

Tuesday, September 23, 2025, 2:30 pm

574 Boston Ave, Room 316

Tufts University

Refreshments at 2:00 outside the building, at the corner of Harvard St. and Boston Ave.