JOINT TUFTS/MIT COSMOLOGY SEMINAR

Electroweak Monopoles, Magnetic Fields, and Topological Defect Formation

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I will argue that the vacuum manifold of the standard model is better viewed as a Hopf fibered three sphere and that the model contains both magnetic monopoles and strings. The Kibble mechanism is applied to electroweak symmetry breaking to obtain the monopole-string network and to obtain an estimate for the cosmological magnetic field. A rigorous analysis of the quantum formation of topological defects will also be discussed with results that can be compared to those using the Kibble-Zurek mechanism.

Tuesday, December 7, 2021, 2:30 pm
574 Boston Ave, Room 310
Tufts University

Refreshments at 2:00 outside room 304