

JOINT TUFTS/MIT COSMOLOGY SEMINAR

An Information-Theoretic Lower Bound on the Energy Density

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A physical system is stable if its Hamiltonian is bounded below, so that we can define a positive notion of "energy" relative to the ground state. But what about the local energy density - can that be negative? I will provide an elegant derivation that a positive energy density always exists, in (discrete or continuous) classical systems with one spatial dimension. When we try to apply the same argument to quantum systems, we will obtain a surprising result linking the energy to information theory.

Tuesday, May 2, 2017, 2:30 pm

574 Boston Ave, Room 310

Tufts University

Refreshments at 2:00 outside room 304