

JOINT TUFTS/MIT COSMOLOGY SEMINAR

Non-minimal coupling and negative null energies

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Even classical non-minimally coupled scalar fields can violate energy conditions such as the NEC. In the context of QFT, non-minimally coupled scalars can obey lower bounds, known as quantum energy inequalities, but these are always state dependent. In this talk I will discuss classical and quantum bounds on the null energy and consider possible violations. Further, I will examine the conformal transformation between Jordan and Einstein frames both classically and semiclassically. Finally, I will comment on extensions of this work on self-interacting fields.

Tuesday, May 16, 2023, 2:30 pm

574 Boston Ave, Room 206

Tufts University

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