JOINT TUFTS/MIT COSMOLOGY SEMINAR

Phenomenology of vector and fermion production during axion inflation

Lorenzo Sorbo

UMass Amherst

In this talk, after quickly reviewing the virtues of axion-like inflatons, I will discuss how a derivative coupling of a pseudoscalar inflaton to vector and to fermions fields can amplify significantly the mode functions of such degrees of freedom which, in their turn, can lead to a very rich, parity-violating, phenomenology. The amplification of the vector modes shows up as an exponentially large occupation number at scales of the order of the inflationary Hubble scale, whereas in the case of fermions one can have a sizable occupation number up to very high energies. This difference implies that fermion and vector production have a very different phenomenology.

Tuesday, April 3, 2018, 2:30 pm

574 Boston Ave, Room 310

Tufts University

Refreshments at 2:00 outside room 304