

SPEAKER: Enrico Morgante

TITLE: **Axion fragmentation**

DATE: 13 Apr 2022, 15:00

PLACE: 1/1-2 - Aula "C. Voci"

ABSTRACT

Axion-like particles are a key ingredient of many new physics scenarios, well motivated both from the theoretical and phenomenological point of view. In a number of recent proposals, the non-trivial dynamical evolution of an axion field in the early universe is used to solve many open problems of particle physics and cosmology, such as the hierarchy problem, Dark Matter, and others. An effect which was previously overlooked is the growth of quantum fluctuations when the axion rolls down a potential with multiple minima. This effect is particularly relevant for the relaxion mechanism, in which provides an alternative stopping mechanism. I will present analytic and lattice results, and discuss the relevance of this phenomenon for the relaxion and other similar mechanisms, focussing on the cosmological aspects.

Organized by

INFN & DFA Prof. Francesco D'Eramo