

The H_0 tension and the physics of the neutrino sector

Saturday, 10 September 2022 11:30 (20 minutes)

Neutrinos are a mysterious sector of the Standard Model with some unanswered fundamental questions. In the first part of our talk we will review the minimal framework with three neutrinos, and what cosmology can tell us about their masses and mixings. However, there also exist non-minimal frameworks which generically assume that the scale of new physics appears is just above 10 TeV (LHC). In this case we typically end up with new light particles, which are promising candidates to explain neutrino anomalies and cosmological tensions. In the second part of the talk we will present one of these scenarios, with a particle, the Majoron, associated to the spontaneous breaking of the lepton number, that significantly changes the thermal history of the Universe in a consistent way with current cosmological data.

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