

Low-scale seesaw from neutrino condensation

Knowing how the mass generation of neutrinos is realized would help us to understand a lot more about the Lepton Number Violation (LNV), the cosmological evolution of the Universe, or the evolution of astronomical objects. We propose a viable extension of the Standard Model where neutrino mass is generated via the LNV condensation in the sector of sterile neutrinos. To prove the concept, for now, we analyse a simplified model of just single family of elementary particles. The model predicts i) the scale of LNV, ii) a pair of TeV scale quasi-degenerate sterile neutrinos which are suitable for leptogenesis, iii) additional heavy Higgs bosons, iv) an additional light and sterile Higgs scalar suitable as a candidate for the dark matter, v) Majoron, vi) the lightest neutrino almost massless. As the model is based on simple and robust principles of dynamical mass generation it has a number of free parameters significantly less than the number of the successfully reproduced observables.

Session and Location

Monday Session, Poster Wall #125 (Hölderlin-Room)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)