Contribution ID: **542** Type: **Parallel session talk**

Linear seesaw mechanism seeded by dark sector

Monday 21 August 2023 09:55 (15 minutes)

We discuss a TeV scale extension of the Standard Model in which a dark sector seeds neutrino mass generation radiatively within the linear seesaw mechanism. Since symmetry prevents tree-level contributions, tiny neutrino masses are generated at one-loop from spontaneous lepton number violation by the small vacuum expectation value of a Higgs triplet. The model can have sizeable rates for lepton flavour violating processes such as $\mu \longrightarrow e\gamma$. We also comment on the implications for dark-matter and collider searches.

Collaboration / Activity

Based on arXiv:2305.02273

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Session Classification: T04 Neutrino Physics

Track Classification: Neutrino Physics