

Stability in the Minimal Type-III Seesaw Model

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We study the minimal type-III seesaw model to explain the origin of the non-zero neutrino masses and mixing. We show that the naturalness arguments and the bounds from lepton flavor violating decay ($\mu \rightarrow e\gamma$) provide very stringent bounds on the model along with the constraints on the stability of the electroweak vacuum up to High energy scale. We perform a detailed analysis of the model parameter space including all the constraints for both normal as well as inverted hierarchies of the light neutrino masses. We find that most of the region that are allowed by lepton flavor violating decay fall into the metastable region.

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