

Phenomenology 2025 Symposium



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Testable Flavored TeV-scale Resonant Leptogenesis with MeV-GeV Dark Matter

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We explore flavored resonant leptogenesis embedded in a neutrinophilic 2HDM. Successful leptogenesis is achieved by the very mildly degenerate two heavier right-handed neutrinos (RHNs) N_2 and N_3 with a level of only $\Delta M_{32}/M_2 \sim \mathcal{O}(0.1\% - 1\%)$. The lightest RHN, with a MeV–GeV mass, lies below the sphaleron freeze-out temperature and is stable, serving as a dark matter candidate. The model enables TeV-scale leptogenesis while avoiding the extreme mass degeneracy typically plagued conventional resonant leptogenesis. Baryon asymmetry, neutrino masses, and potentially even dark matter relic density can be addressed within a unified, experimentally testable framework.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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