

TeV-scale Lepton Number Violation: Connecting Leptogenesis, Neutrinoless Double Beta Decay, and Colliders

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In the context of TeV-scale lepton number violating (LNV) interactions, we illustrate the interplay between leptogenesis, neutrinoless double beta ($0\nu\beta\beta$) decay, and LNV searches at proton-proton colliders. Using a concrete model for illustration, we identify the parameter space where standard thermal leptogenesis is rendered unviable due to washout processes and show how $0\nu\beta\beta$ decay and pp-collisions provide complementary probes. We find that the new particle spectrum can have a decisive impact on the relative sensitivity of these two probes.

Reference to paper (DOI or arXiv)

<https://arxiv.org/abs/2106.10838>

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