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Probing Lepton-Number-Violating New Physics at Colliders

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While lepton number is conserved in the Standard Model, its violation is a requisite for generating neutrino Majorana masses. Consequently, the search for lepton number violation is a critical pathway for elucidating the origin of neutrino mass and exploring beyond-the-Standard-Model physics. If lepton-number-violating (LNV) new physics occurs at the TeV scale, it can be assessed at colliders through direct searches for new particles and precision measurements of their couplings. In this talk, I will review recent developments, with a focus on the ultraviolet completions of the LNV effective operators and flavor effects inherent in LNV new physics.

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