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Abstract for an Invited Paper for the APR15 Meeting of the American Physical Society

Tests of See-saw Mechnisms at the LHC

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The origin of the neutrino masses remains to be one of the most puzzling mysteries in particle physics. Even with the milestone discovery of the Higgs boson, neutrinos are the only class of particles in the SM that allow a mass source that is not due to the Higgs mechanism. In this talk, I will briefly recollect the renormalizable theoretical formulation for the three-types of neutrino mass generation, emphasize their characteristic features, and discuss the direct probe of those scenarios at hadron colliders.