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Title:	Type II seesaw model and multilepton signatures at hadron colliders
Authors:	Mitra, Manimala (/jspui/browse?type=author&value=Mitra%2C+Manimala)
Keywords:	multilepton hadron colliders Higgs bosons
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Abstract:	We investigate multilepton signatures, arising from the decays of doubly charged and singly charged Higgs bosons in the Type II seesaw model. Depending on the vacuum expectation value of the triplet v_Δ , the doubly and singly charged Higgs bosons can decay into a large variety of multilepton final states. We explore all possible decay modes corresponding to different regimes of v_Δ that generate distinguishing four and five leptonic signatures. We focus on the 13 TeV Large Hadron Collider (LHC) and further extend the study to a very high energy proton-proton collider (VLHC) with a center-of-mass energy of 100 TeV. We find that a doubly charged Higgs boson of masses around 375 GeV can be discovered at immediate LHC runs. A heavier mass of 630 GeV can instead be discovered at the high-luminosity run of the LHC or at the VLHC with 30 fb ⁻¹
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