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[315] Search for long-lived heavy neutrinos with the CMS Experiment

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Heavy neutrinos are predicted by numerous Beyond the Standard Model theories that provide answers to long-standing questions, such as the smallness of neutrino masses, matter-antimatter asymmetry and the nature of dark matter. In this talk, a status report on a search for a long-lived heavy neutrino decaying to three leptons is presented. This analysis focuses on the final state with one displaced lepton pair and uses the resulting invariant mass to look for an excess between 1 and 10 GeV. Data-driven methods are developed to model misidentified and non-prompt lepton backgrounds in the signal region. A sample of 41.53 fb^{-1} of proton-proton collision data collected with the CMS detector in 2017 at $\sqrt{s} = 13 \text{ TeV}$ is used.

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