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HNL at HL-LHC with the CMS Muon Spectrometer

Wednesday, 15 July 2020 12:30 (10 minutes)

Study of the sensitivity to long-lived heavy neutrinos (i.e Heavy Neutral Leptons or HNL) with the capabilities of the CMS muon system at the HL-LHC. The study of the reach for a long-lived neutrino - with a dedicated displaced trigger in the muon system - will have the advantage to detect fully hadronic decays of the HNL. We foresee this to be potentially optimal to study the tau sector in HNL models. This strategy would be complementary to track-based searches at ATLAS and CMS for displaced vertices from the neutrino decay (reconstructed either in the inner-trackers or muon systems).

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