

Review of recent searches for Heavy Neutral Leptons in CMS

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The smallness of neutrino masses in conjunction with the observed flavor oscillations in the neutrino sector can be hinting to physics beyond the standard model. These observations can be naturally accommodated by the so-called “seesaw” mechanism, in which new Heavy Neutral Leptons (HNL) are postulated. Additionally, several HNL models provide a DM candidate or include a possible explanation for the observed baryon asymmetry. This talk presents an comprehensive overview of the CMS HNL program with a focus on the new experimental results as shown in a recently published review paper by CMS. The talk will highlight several novel and complementary approaches using both prompt and long-lived signatures using the full Run-II data-set collected at the LHC.

Working Group

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