

Searches for Heavy Neutral Leptons in CMS

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The smallness of neutrino masses in conjunction with together their observed oscillations could be pointing to physics beyond the standard model that can be naturally accommodated by the so-called “seesaw” mechanism, in which new Heavy Neutral Leptons (HNL) are postulated. Several models with HNLs exist that incorporate the seesaw mechanism, sometimes also providing a DM candidate or giving a possible explanation for the baryon asymmetry. This talk presents an overview of the most recent searches for HNLs interpreted in such models, using both prompt and long-lived signatures in CMS using the full Run-II data-set collected at the LHC. A special focus is given to HNL signatures that benefit from the exploitation of dedicated data streams and innovative usage of the CMS detector.

Alternate track

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