

## Heavy Neutral Lepton Searches at the LHC

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In the Standard Model of particle physics, the smallness of neutrino masses compared to other leptons might be a hint for presence of new physics. Models of new physics beyond the Standard Model predict the existence of heavy neutral leptons, like sterile neutrinos, which explain this phenomenon via the “See-Saw” mechanism. These models are also able to explain the nature of dark matter and the baryon asymmetry in our universe. Searches for the production of these heavy neutral leptons at the LHC are presented with data collected by the ATLAS and CMS experiments. Experimental signatures are considered with various lepton multiplicities in the final state as well as decay topologies with or without associated jets. A wide mass range is considered by these searches, probing masses as low as few GeV and as high as a few TeV. Datasets collected during Run-II of the LHC are used by the presented searches.

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