

Heavy Neutrino Search from the Higgs decay

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We use the LHC Higgs data to derive updated constraints on electroweak-scale sterile neutrinos that naturally occur in many low-scale seesaw extensions of the Standard Model to explain the neutrino masses. We also analyze the signal sensitivity for a new final state involving a single charged lepton and two jets with missing energy, which arises from the decay of sterile neutrinos produced through the Higgs and W,Z boson mediated processes at the LHC. Future prospects of these sterile neutrino signals in precision Higgs measurements, as well as at a future 100 TeV collider, are also discussed.

We will also study the signal sensitivity heavy neutrino production from $H + j$ process where the heavy neutrino will be produced from the Higgs decay at the LHC. The heavy neutrino will produce a single lepton, two jet and missing energy after the decay.

Summary

References:

arXiv:1704.00880 [hep-ph]

arXiv:1704.00881 [hep-ph]

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