

Constraining Sterile Neutrinos from Precision Higgs Data

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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.

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