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Higgs LFV decays in the model for Dirac neutrino masses and dark matter

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Content :

Observed tiny masses of neutrinos suggest the existence of physics beyond the standard model. Many models and mechanisms are proposed to explain their smallness naturally. Some of them generate tiny neutrino masses by the effect of very heavy particles (seesaw mechanism), and others generate them by quantum effect of new particles whose masses are near EW scale. However, it was shown that most of these models are excluded if lepton flavor violating decays of the Higgs boson are observed in near future collider experiments without observations of lepton flavor violating decays of the charged leptons. We made a new model which generates Dirac neutrino masses by quantum effect and is not excluded even if such decays are observed. Our model also has a candidate of dark matter and can explain the observed relic abundance. In this talk, I introduce our model and its features. (arXiv:1904.07039, Phys. Rev. D100 (2019) no.1, 015044)

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