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Interplay between neutrinos and higgs boson masses

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I would like to present the work done in collaboration with S. Heinemeyer, M.J.Herrero and S.Peñaranda(hep-ph/0084861; already accepted by JHEP).

In this work we have done a full diagrammatic computation of the one-loop corrections from the neutrino/sneutrino sector to the lightest Higgs boson mass, M_h , within the context of the so-called MSSM-seesaw type I scenario, where three right handed neutrinos and their corresponding superpartners are included in order to explain light neutrino masses in a “natural” way.

We have explored the dependence on all the parameters involved, with particular emphasis in the role played by the heavy Majorana scale and the physical neutrino mass. For simplicity, we have restricted ourselves to the case of one generation of neutrinos/sneutrinos. We have found sizable corrections to M_h , bigger than the expected accuracy in the measurement of m_h in the LHC, for some regions of the MSSM-seesaw parameter space which were not expect that .

I would also like to make few comments on our new results on the three generation case.

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