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The Zee model: connecting neutrino masses to Higgs lepton flavor violation

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I will discuss the Zee model, a radiative neutrino mass model with possible large lepton flavor violating Higgs (HLFV) decays, in particular $h \to \tau\mu$. In the first part I will analyse the effective operators responsible for HLFV and their tree level UV completions. By imposing constraints from charged lepton flavour violating observables, like $\tau \to \mu\gamma$, upper limits on BR$(h \to \tau\mu)$ can be set for the different realizations. In the second part of the talk, I will discuss the connection of HLFV to popular neutrino mass models. We will argue why most neutrino models generate very suppressed HLFV at one loop level. On the other hand, the general Zee model generates HLFV at tree level. We will present results of a full parameter scan which show how the model is fully testable by LHC and LFV searches.

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Abstract Title

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Subject

Neutrinos

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