

Lepton flavor violation and seesaw models at future lepton colliders

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Many new physics scenarios beyond the Standard Model often necessitate the existence of a (light) neutral scalar H , which might couple to the charged leptons in a flavor violating way, while evading all existing constraints. Such scalars could be effectively produced at future lepton colliders like CEPC, ILC and FCC-ee, either on-shell or off-shell, and induce lepton flavor violating (LFV) signals. We find that a large parameter space of the scalar mass and the LFV couplings can be probed, well beyond the current low-energy constraints in the lepton sector. Important implications for some of the well-motivated seesaw models will also be mentioned.

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