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## Lepton flavor violation induced by a neutral scalar 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, FCC-ee and CLIC, either on-shell or off-shell, and induce lepton flavor violating signals. We find that a large parameter space of the scalar mass and the lepton flavor violating couplings can be probed, well beyond the current low-energy constraints. The neutral scalar explanation of the muon  $g-2$  anomaly could also be directly tested at future lepton colliders.

### Summary

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