



ID de Contribution: 33

Type: Non spécifié

## Impact of sterile neutrinos in lepton flavour violating processes

We address the impact of sterile fermion states on both lepton flavor conserving observables, namely the anomalous magnetic moment of charged leptons and neutrinoless double beta decays, and on lepton flavor violating (LFV) observables such as LFV Z decays.

We illustrate our results in a minimal, effective extension of the Standard Model by one sterile fermion state, and in a well-motivated framework of neutrino mass generation, embedding the Inverse Seesaw into the Standard Model.

Both the simple “3+1” toy model and the Inverse Seesaw realisation succeed in alleviating the tension related to the muon anomalous magnetic moment, albeit only at the  $3\sigma$  level.

Concerning neutrinoless double beta decays, we show that a future  $0\nu 2\beta$  observation does not necessarily imply an inverted hierarchy for the active neutrinos.

We finally investigate the impact of the sterile neutrinos on LFV Z decays, focusing on potential searches at a high-luminosity Z factory such as FCC-ee.

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