

Charged Lepton Flavor Violation in a class of Radiative Neutrino Mass Generation Models

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We investigate charged lepton flavor violating processes $\mu \rightarrow e\gamma$, $\mu \rightarrow ee\bar{e}$ and $\mu-e$ conversion in nuclei for a class of three-loop radiative neutrino mass generation models with electroweak multiplets of increasing order. We find that, because of certain cancellations among various one-loop diagrams which give the photonic dipole and non-dipole contributions in effective $\mu e\gamma$ vertex and Z-penguin contribution in effective $\mu e Z$ vertex, the flavor violating processes $\mu \rightarrow e\gamma$ and $\mu - e$ conversion in nuclei become highly suppressed compared to $\mu \rightarrow ee\bar{e}$ process. Therefore, the observation of such pattern in LFV processes may reveal the radiative mechanism behind the neutrino mass generation.

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