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$\mu \to e$ Conversion in the Electroweak-scale Right-handed Neutrino Model

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Within the framework of the Electroweak-scale right-handed neutrino (EW-ν_R) model, we calculate the rate for $\mu \to e$ conversion with a particular aim at the sensitivities
of the upcoming experiments, Mu2e (6×10^{-17}) and COMET (3×10^{-17}). Our calculations show a direct relationship between the rate for $\mu \to e$ conversion and that for $\mu \to e\gamma$. Upon comparing the projected sensitivities with the present limit from SINDRUM II (6.1×10^{-13}) and including the upper bound on $\mu \to e\gamma$ (5.7×10^{-13}), we found that approximately only half of the allowed parameter space between the SINDRUM II limit and the sensitivities of Mu2e and COMET is available ($\sim 10^{-17} - 10^{-15}$).

Summary

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