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(In)dependence of various LFV observables in the non-minimal SUSY

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We investigate the muon anomalous magnetic moment, the $\mu \to e\gamma$ branching ratio and the $\mu \to e$ conversion rate in the nuclei from the point of view of the planned $\mu \to e$ conversion experiments.

In the MSSM these processes are strongly correlated through $\tan\beta$ enhanced contributions. We demonstrate how in the Minimal R-symmetric Supersymmetric Standard Model the $\mu \to e\gamma$ branching ratio and the $\mu \to e$ conversion rate in the nuclei give distinct bounds on the parameter space. We also consider the supersymmetric contributions to the muon anomalous magnetic moment, generated by a subset of topologies contributing to the LFV observables. We briefly discuss the generic implementation of the aforementioned observables into the FlexibleSUSY spectrum-generator generator.

Looking at the current $\mu \to e\gamma$ searches, the analysis points to the need of constructing a dedicated $\mu \to e$ conversion experiment to cover as large parameter space as possible in the non-minimal supersymmetric models.

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