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Revisiting the $\Gamma(K \rightarrow e \gamma)/\Gamma(K \rightarrow \mu \gamma)$ ratio in supersymmetric unified models

Tuesday 21 May 2013 17:20 (15 minutes)

It has been pointed out that supersymmetric extensions of the Standard Model can induce significant changes to the theoretical prediction of the ratio $\Gamma(K\to e\nu)/\Gamma(K\to \mu\nu)=RK$, through lepton flavor violating couplings. We shall discuss these new contributions to RK arising in the context of different constrained supersymmetric models which succeed in accounting for neutrino data, further considering the possibility of accommodating a near future observation of a $\mu\to e\gamma$ transition. The prospects for RK in the framework of unconstrained supersymmetric models will also be accessed, taking into account limits on BR(B_s $\to \mu\mu$) and, more importantly, BR($\to e\gamma$) and BR(B_u $\to \tau\nu$).

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