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## Flavored axions and the flavor problem

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A Peccei-Quinn (PQ) symmetry is proposed, in order to generate in the Standard Model (SM) quark sector a realistic mass matrix ansatz with five texture-zeros. Limiting our analysis to Hermitian mass matrices we show that this requires a minimum of 4 Higgs doublets. This model allows assigning values close to 1 for several Yukawa couplings, giving insight into the origin of the mass scales in the SM. Since the PQ charges are non-universal the model features Flavor-Changing Neutral Currents (FCNC) at the tree level. We calculate the FCNC couplings of the most general low-energy effective Lagrangian for the axion in a procedure valid for an arbitrary number of Higgs doublets. Finally, we report the allowed region in the parameter space obtained from the measurements of branching ratios of semileptonic meson decays.

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