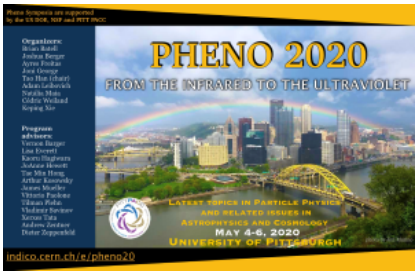


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# Generating the Cabibbo Angle in Models of Discrete, Non-Abelian Flavored Gauge Mediation

*Tuesday 5 May 2020 16:45 (15 minutes)*

Towards a further exploration of a class of flavored gauge mediation models of supersymmetry breaking in which the mixing of the Higgs and messenger doublets are connected by a discrete non-Abelian symmetry, we investigate the generation of nontrivial mass hierarchies and mixing angles for the Standard Model matter fields. We consider here the case in which the Higgs-messenger symmetry, given by $S_3$, also provides a partial family symmetry. Within this specific implementation of $S_3$, we show that couplings at the renormalizable level can result in hierarchical quark masses, but do not lead to phenomenologically viable quark mixing parameters, thus requiring the inclusion of higher-dimensional operators. As a concrete exploration of this idea, we show that the Cabibbo angle can be generated within this framework via such nonrenormalizable couplings and explore the phenomenological implications of this scenario.

## Summary

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