

Revisiting Flavor and CP Violation in Supersymmetric SU(5) with Right-Handed Neutrinos

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We revisit the minimal supersymmetric SU(5) grand unified theory with three right-handed neutrinos in which universality conditions for soft-supersymmetry breaking parameters are imposed at the Planck scale. If the Majorana masses for the neutrinos are around 10^{15} GeV, large mixing angles and phases in the neutrino sector lead to flavor-violation and CP-violation in the right-handed down squark and left-handed slepton sectors. Since the observed Higgs boson mass and the proton decay constraints indicate sfermions have masses larger than a few TeV, flavor and CP constraints are less restrictive. We explore the constraints on models with a universal soft-supersymmetry breaking input parameters coming from proton stability, electric dipole moments, $\mu \rightarrow e\gamma$ decay, and the Higgs mass observed at the LHC. Regions compatible with all constraints can be found if non-zero A-terms are taken.

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