

Portoroz 2013: Probing the Standard Model and New Physics at Low and High Energies

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Gauge Mediation beyond MFV

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I will discuss a modification of Gauge Mediation in which the messenger sector couples directly to the MSSM. These couplings are controlled by the same dynamics that explain the flavor hierarchies, and therefore are parametrically as small as the Yukawas. This setup gives rise to an interesting SUSY spectrum that is calculable in terms of a single new parameter. Due to large A-terms, the model can easily accommodate a 125 GeV Higgs with a relatively light SUSY spectrum. The flavor structure depends on the particular underlying flavor model, but flavor-violating effects are strongly suppressed and arise mainly in the up-sector. This structure allows for an implementation of SUSY flavor models with a built-in suppression of $\Delta F=2$ effects and provides an ideal framework to account for direct CP violation in D-meson decays.

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