

## Natural supersymmetry without cancellations in the quiver supersymmetric standard model

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Supersymmetry (SUSY) remains a leading candidate for physics beyond the Standard Model (SM). However, thus far, the LHC has not found any evidence of supersymmetry. The lower bound of the gluino mass exceeds 2 TeV and around 1 TeV for the stop in the bulk of parameter space. The fine-tuning of the electroweak symmetry breaking (EWSB) in the Minimal Supersymmetric Standard Model (MSSM) is almost below a percent level. Now the curse of the MSSM is the radiative electroweak symmetry breaking, which mixes the gaugino and stop masses with the Higgs mass via the renormalization group running. Furthermore, the inevitable separation between the mediation scale and the soft SUSY breaking mass, at least a loop factor, further complicates the situation. In order to ameliorate these issues, we investigate the potential of the quiver supersymmetric standard model. Instead of introducing intricate cancellations among different contributions, we double the SM gauge group and the top sector and separate the SUSY breaking and the original SM gauge/Yukawa interaction between the two sectors, which are combined into the SM around the TeV scale to minimize the corrections to the Higgs mass. We present the results of our phenomenological analysis on the model.

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