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A supersymmetric model with uncolored scalar top partners

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We present a four-dimensional model where the Higgs mass is protected from the quadratic one-loop top quark corrections by scalar particles that do not carry standard model (SM) color charges. They can even be complete SM singlets. The cancellation of the quadratic divergence is ensured by a Z_3 symmetry that relates the SM top sector and two hidden top sectors, each charged under its own hidden color group. In addition to the scalar top partners, there are additional supermultiplets in the hidden color sectors below the TeV scale, which can carry SM electroweak quantum numbers. There a variety of possible collider signals of this model, which are governed by the hidden color bound states.

Parallel Session

Supersymmetry: Models, Phenomenology and Experimental Results

Author: Prof. CHENG, Hsin-Chia (University of California, Davis)

Presenter: Prof. CHENG, Hsin-Chia (University of California, Davis)

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