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Title: Basis invariant conditions for supersymmetry in the two-Higgs-doublet model

Abstract: The minimal supersymmetric standard model involves a rather restrictive Higgs potential with two Higgs fields. Recently, the full set of classes of symmetries allowed in the most general two-Higgs-doublet model was identified; these classes do not include the supersymmetric limit as a particular class. Thus, a physically meaningful definition of the supersymmetric limit must involve the interaction of the Higgs sector with other sectors of the theory. Here we show how one can construct basis invariant probes of supersymmetry involving both the Higgs sector and the gaugino-Higgsino-Higgs interactions.

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