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Implications of LHC results for Supersymmetry

Friday, 7 December 2012 14:30 (30 minutes)

We discuss how the current LHC results, often presented in the context of the CMSSM or simplified models, constrain supersymmetry in general. To this end, we are particularly interested in "natural" or "effective" SUSY" scenarios, which are preferred on the one hand by theoretical considerations, and on the other hand by flavor constraints. Moreover, assuming that the LHC and Tevatron excesses hinting at a Higgs with mass near 125 GeV (and a signal strength somewhat larger than SM expectations in some channels) persist, we assess the extent to which this can be accommodated in minimal and non-minimal SUSY models. Here we are particularly interested in determining the extent to which the Higgs data discriminates between or possibly eliminates potentially realistic GUT scenarios. Finally, combining Higgs and SUSY results with data regarding relic dark matter density and dark matter searches, we discuss predictions for the LHC at 13 TeV.

Presentation Type

review

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