Supersymmetry 2011 (SUSY11)



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What if the LHC does not find supersymmetry in the sqrt(s)=7 TeV run?

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I present an investigation (arXiv:1102.4693 [hep-ph]) into the implications for supersymmetry from an assumed absence of any signal in the first period of LHC data taking at 7 TeV center-of-mass energy and with 1 to 7 fb^(-1) of integrated luminosity. The zero-lepton plus four jets and missing transverse energy signature is considered, and I will present a combined fit of low-energy measurements, the dark matter relic density constraint and potential LHC exclusions within a minimal supergravity model. A non-observation of supersymmetry in the first period of LHC data taking would still allow for an acceptable description of low-energy data and the dark matter relic density in terms of minimal supergravity models, but would exclude squarks and gluinos with masses below 1 TeV.

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