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EW SUSY production searches at ATLAS and CMS

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The discovery of weak-scale supersymmetric (SUSY) particles is one of the primary goals of the Large Hadron Collider experiments. Depending on the mechanism of SUSY breaking, it could be that strongly interacting squarks and gluinos are too massive to produce at the LHC. In this case, the primary SUSY production mode is of charginos, neutralinos and sleptons, mediated by electroweak interactions. However, the experimental signatures for discovery vary widely, depending on the mass hierarchy, SUSY particle mixing parameters and conservation/violation of R-parity, necessitating a large and complex suite of experimental search strategies. These strategies include searching for events with multiple charged leptons, photons, reconstructed higgs bosons or new long-lived particles. In this presentation, the latest ATLAS and CMS search results in these channels are presented, based mainly on 20 fb^{-1} of pp collisions at $\sqrt{s} = 8$ TeV collected in 2012. The resulting constraints on the parameter spaces of various SUSY models are shown.

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Classification de Session: Beyond the Standard Model

Classification de thématique: Experiment