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Estimating QCD background in search for new physics in events with missing energy and large hadronic activity in pp collisions at 13 TeV

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We present a method for predicting the Quantum Chromodynamics (QCD) background in a search for Supersymmetry (SUSY) at the Compact Muon Solenoid (CMS) experiment based on events with large missing energy, large hadronic activity and zero or more identified bottom quark jets. This signature arises in so-called natural SUSY models and is expected to be accessible at the center-of-mass energy of 13 TeV proton-proton collisions at CERN's Large Hadron Collider (LHC). The study is based on simulated Monte Carlo (MC) events. We describe in detail the use of a QCD control region parallel to the signal region and the technique used to extrapolate from the QCD dominated control region to the signal region.

Oral or Poster Presentation

Oral

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