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Search for Displaced Supersymmetry in Events with an Electron and a Muon with Large Impact Parameters

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A search for new long-lived particles decaying to leptons is presented using proton-proton collisions produced by the LHC at sqrt(8) TeV. Data used for the analysis were collected by the CMS detector and correspond to an integrated luminosity of 19.7 /fb. Events are selected with an electron and muon with opposite charges that both have transverse impact parameter values between 0.02 and 2 cm. The search has been designed to be sensitive to a wide range of models with nonprompt electron-muon final states. Limits are set on the "displaced supersymmetry"model, with pair production of top squarks decaying into an electron-muon final state via R-parity-violating interactions. The results are the most restrictive to date on this model, with the most stringent limit being obtained for a top squark lifetime corresponding to ctau = 2 cm, excluding masses below 790 GeV at 95% confidence level.

Oral or Poster Presentation

Oral

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