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Searches for the pair production of dark matter particles at CMS

Saturday, July 7, 2012 2:00 PM (15 minutes)

We present the results of searches for dark matter performed using data collected by the CMS experiment at the LHC in pp-collisions at a center-of-mass energy of 8 TeV. Searches for dark matter candidates are performed in events with missing transverse energy. Traditionally, searches for supersymmetry (SUSY), where the lightest SUSY particle is a good candidate for dark matter, have been performed. We present more model independent searches for the production of a pair of dark matter particles without making assumptions on the new physics model. The results are translated to bounds on the dark matter-nucleon scattering cross-section which can be directly compared to those from the direct detection and the indirect detection experiments, showing that the collider bounds are competitive and complementary to those from the other approaches.

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