

Searches for Dark Matter in association with top quarks at CMS

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We present results of searches for pair-produced dark matter in association with top quarks, using proton-proton collision data collected with the CMS detector at the CERN LHC at a center-of-mass energy of 8 TeV. We investigate processes yielding top quark pairs or a single top quark plus a large amount of missing transverse energy due to the undetected dark matter particle pair. We search for an excess of events having large missing transverse energy, where expected Standard Model backgrounds are low. Results are interpreted in the context of an effective field theory approach, where limits are set on both the dark matter mass, as well as the scale of the four-fermion interaction resulting in the dark matter pair-production.

Author: CMS COLLABORATION (CERN)

Presenter: PIEDRA GOMEZ, Jonatan (Universidad de Cantabria (ES))

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