

Search for High-Mass Top Quark Resonances with the Compact Muon Solenoid

Saturday, 2 December 2017 14:00 (20 minutes)

I present a search for new massive particles decaying to a pair of top quarks with the CMS detector at the LHC. Proton-proton collision data recorded at a center-of-mass energy of 13 TeV is used. The search is performed by measuring the invariant mass distribution of the top-quark pair and testing for deviations from the expected Standard Model background. In the high mass ranges accessible by the LHC at these energies, the top quarks are produced with high transverse momenta: the products of hadronically decaying top quarks emerge as a single jet. Specific reconstruction algorithms and selections are employed to address the identification of boosted top quark signatures. The results are presented in terms of upper limits on the model cross section. Models of Randall-Sundrum Kaluza-Klein gluon and Z' boson production are considered.

Session

Thesis Presentations (30+10 min)

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