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Search for Supersymmetric Top Squark Production at CMS with Heavy Object Taggers[1] CALEB SMITH, Baylor University, CMS COLLABORATION COLLABORATION[2] — A search for top squarks is presented based on proton-proton collision events containing hadronically decaying top quarks, no leptons, and an imbalance in transverse momentum. The data used were collected by the CMS detector at the CERN LHC with a center-of-mass energy of 13 TeV during CMS Run 2 (2016-2018) corresponding to an integrated luminosity of 137 inv. fb. Heavy object taggers were developed for identifying boosted top quarks, boosted W bosons and resolved top quarks using deep learning techniques. Search regions are defined in terms of the multiplicity of bottom quark jets, top quark and W jet candidates, missing transverse momentum, and the scalar sum of jet transverse momenta. This presentation will focus on the major background from leptonic decays of the W boson due to leptons failing the lepton selection requirements.

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[2]Compact Muon Solenoid

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