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Measurements of jet substructure in top quark pair production in ATLAS

The LHC has unlocked a previously unexplored energy regime. Dedicated techniques have been developed to reconstruct and identify boosted top quarks. Measurements in boosted top quark production test the Standard Model in a region with a strongly enhanced sensitivity to high-scale new phenomena. In this contribution, several new measurements of the ATLAS experiment are presented of the differential cross section and asymmetries in this extreme kinematic regime. The measurements are based on the complete 139/fb run-2 data set of proton-proton collisions at 13 TeV collected in run 2 of the LHC. The measurements are interpreted within the Standard Model Effective Field Theory, yielding stringent bounds on the Wilson coefficients of two-light-quark-two-quark operator.

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