

Latest results on top production from the CMS and ATLAS collaborations: inclusive and differential measurements

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In proton-proton collisions at the LHC, pairs of top and anti-top quarks are expected to be mostly produced through gluon fusion and the large number of $t\bar{t}$ pairs can be used to test the predictions of Quantum Chromodynamics. Measurements of the top quark production cross sections in proton-proton collisions at 7 and 8 TeV with the ATLAS and CMS detectors at the Large Hadron Collider are presented. Both inclusive and differential cross-section measurements are compared to the theoretical predictions. We also present measurements of the spin correlation between top and anti-top quarks as well as of the top-quark charge asymmetry which constitute important tests of QCD and are sensitive to potential contributions from new physics. Besides being compared to different predictions from the standard model the measurements the results are also used to extract the strong coupling constant and the pole mass.

Author: KATZY, Judith (DESY)

Presenter: Prof. TASSI, Enrico (Universita' della Calabria and INFN-Cosenza)

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