



Contribution ID: 240

Type: poster

Measurement of the differential top quark pair production cross section in pp collisions at 8 TeV

Normalized differential top quark pair production cross sections are measured in pp collisions at a centre-of-mass energy of 8 TeV at the LHC using the CMS detector. The dataset used for these measurements corresponds to an integrated luminosity of 19.7 fb⁻¹. The measurements are performed in the lepton+jets (e+jets and mu+jets) and in the dilepton (ee, mumu, and emu) decay channels. The ttbar production cross section is measured as a function of kinematic properties of the charged leptons, the jets associated to b quarks, the top quarks, and the ttbar system. The data are compared with several predictions from perturbative QCD calculations up to approximate next-to-next-to-leading-order precision. No significant deviations are observed relative to the standard model predictions

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Track Classification: Top and Electroweak Physics