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Top Quark Pair Cross Section Measurements

Measurements of inclusive and differential top quark pair production cross section at 8 TeV are presented, performed using CMS data collected in 2012. The total cross section is measured in the lepton+jets and dilepton channels, including the tau-dilepton mode. DIfferential cross sections are measured as a function of various kinematic observables, including the transverse momentum and rapidity of the (anti)top quark as well as the top-antitop system, as well as multiplicity and transverse momenta of jets produced in addition to the top pair. The results are combined and confronted with precise theory calculations. The data allow for tests and determinations of MC-parameters, such as those related to the scales for renormalization and factorization and for the matching between the matrix-element and parton-shower level. Differential cross sections are also provided for observables corresponding to top quark final states at particle level ("pseudo-top").

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