



Top mass measurements at CMS (15' + 5')

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Measurements of the top quark mass are presented using data collected by the CMS experiment in proton-proton collisions at the LHC at centre-of-mass energies of 7 and 8 TeV. Analyses in several decay channels of top quark pair events are employed to determine the top quark mass. The results are combined and compared to the world average.

Measurements of the top quark mass employing alternative methods are presented using data collected by the CMS experiment in proton-proton collisions at the LHC in the years 2011 and 2012 at centre-of-mass energies of 7 and 8 TeV. The alternative methods include the reconstructed invariant mass distribution of the top quark, an analysis of endpoint spectra, measurements from shapes of top quark decay distributions, as well as a measurement using leptonic top quark decays with a J/ψ . The dependence of the mass measurement on the kinematic phase space is investigated. Measurements of the difference between the masses of top and anti-top quarks are also presented. Furthermore, the top quark mass, and also α_s are extracted from the measured top quark pair cross section.

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