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Measurements of the top quark mass using the ATLAS and CMS detectors at the LHC

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The latest measurements of the top quark mass using the ATLAS experiment are presented. A measurement based on a multi-dimensional template fit that can constrain the uncertainties on the energy measurements of jets is presented and combined with a measurement using dilepton events. In addition, novel measurements aiming to measure the mass in a well-defined scheme are presented. These measurements use precision theoretical QCD calculations for both inclusive $t\bar{t}$ production and $t\bar{t}$ production with an additional jet to extract the top quark mass in the pole-mass scheme.

Measurements of the top quark mass are presented, obtained from CMS data collected in proton proton collisions at the LHC at centre-of-mass energies of 7 TeV and 8 TeV. The mass of the top quark is measured using several methods and channels, including the reconstructed invariant mass distribution of the top quark, an analysis of endpoint spectra as well as measurements from shapes of top quark decay distributions. The dependence of the mass measurement on the kinematic phase space is investigated. The results of the various channels are combined and compared to the world average. The top mass and also α_s are extracted from the top pair cross section measured at CMS.

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