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Measurements of the top quark mass with the ATLAS detector

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The top quark mass is one of the fundamental parameters of the Standard Model. The latest ATLAS measurements of the top quark mass in top quark pair and single top final states are presented. A measurement using lepton+jets top-quark pair events is presented, where a multi-dimensional template fit is used to constrain the uncertainties on the energy measurements of jets. The measurement is combined with a measurement using dilepton events. A measurement in the all-hadronic channel is also reported. In addition an extraction of the top quark mass using leptonic kinematic variables compared with QCD calculations is discussed. Measurements that use precision theoretical QCD calculations for both inclusive $t\bar{t}$ production and $t\bar{t}$ production with an additional jet are also presented to extract the top quark mass in the pole-mass scheme.

Experimental Collaboration

ATLAS

Presenter: NISIUS, Richard (Max-Planck-Institut für Physik (DE))**Session Classification:** Top and electroweak**Track Classification:** Top and Electroweak Physics