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Top Properties (including mass) at CMS

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Measurements of several top-quark properties are presented, obtained from the CMS data collected in 2011 and 2012 at centre-of-mass energies of 7 and 8 TeV. The results include measurements of the top pair charge asymmetry, the W helicity in top decays, the top quark charge, and of the $t\bar{t}$ spin correlation and the search for anomalous couplings. The results are compared with predictions from the standard model as well as new physics models. The cross section of $t\bar{t}$ events produced in association with a W, Z boson or a photon is also measured. 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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