DIS 2015
XXIII International Workshop on Deep-Inelastic Scattering and Related Subjects

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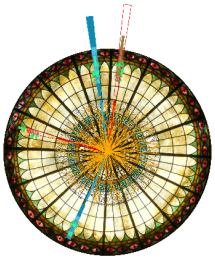

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Measurements of the top-quark properties in the production and decays of ttbar events at CMS and ATLAS

Wednesday 29 April 2015 14:00 (25 minutes)

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 ttbar 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 ttbar events produced in association with a W, Z boson or a photon is also measured.

The top quark pair charge asymmetry is an asymmetry predicted to occur beyond leading-order QCD in the Standard Model, and may be significantly enhanced by the presence of new physics. The ttbar production charge asymmetry is measured inclusively and differentially using the 7 and 8 TeV ATLAS datasets. Making use of the large number of top quark pairs collected, we also present measurements of the spin correlation between top and anti-top quarks using several variables and discuss their sensitivity to new physics. A search for flavour changing neutral current processes in top quark decays is also presented.

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Session Classification: WG3+WG5 Joint Session

Track Classification: WG5 Heavy Flavours