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Type: **Experiment**

Measurement of top quark polarisation with the ATLAS experiment

While in the Standard Model top quarks are predicted to be produced unpolarized at the LHC, several models beyond the SM predict a nonzero polarization. In particular, some of the models predicting a larger forwardbackward $t\bar{t}$ asymmetry than predicted in the SM, as measured at the Tevatron, predict a positive top quark polarization. Using 4.7 fb⁻¹ of data collected by the ATLAS experiment at a centre of mass energy of 7 TeV, a measurement of the top quark polarization is presented. The full $t\bar{t}$ system is reconstructed from final states with at least one charged lepton, and a template fit to the distribution of the angle between the charged lepton and the top quark is performed to measure the top quark polarisation.

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