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Measurements of the $t\bar{t}$ differential cross section in the lepton+jets channel in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector at LHC

Wednesday, 11 April 2012 19:00 (20 minutes)

In this talk three measurements of $t\bar{t}$ differential cross section at will be shown: with respect to the transverse momentum, to the mass and to the rapidity of the $t\bar{t}$ system.

The analysis was carried over a data sample of 2.05fb^{-1} recorded with the ATLAS detector. The events were selected with a cut based approach in the one lepton plus jets channel, where the lepton can be either an electron or a muon.

The most relevant backgrounds (multi-jet QCD and W + jets) were extracted using data driven methods, while the others (Z + jets, diboson and single top) were obtained with Monte Carlo techniques.

The final background-subtracted distributions were corrected for detector and selection effects using unfolding methods. The measurements are dominated by the systematic uncertainties and show good agreement with the Standard Model predictions.

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