

XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



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Measurements of (differential) $t\bar{t}$ production cross sections with the ATLAS experiment at the LHC

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Comprehensive measurements of differential cross-sections of top-quark-antiquark pair-production are presented. The measurements are performed in the dilepton, lepton+jets and the all-hadronic channels which allow for reconstruction of the top-quark and top-quark-pair kinematic distributions. The two channels are complementary in terms of range and resolution for several variables, including final states with top quarks with very high transverse momenta compared to the top quark mass. Both measurements use data recorded during Run 2 of the LHC at the highest center of mass achieved for proton collisions. The measurements are compared quantitatively to several setups of next-to-leading order matrix-element generators combined with parton-shower generators. In addition, total cross-section measurements based on dilepton and lepton+jets final states using up to the full Run 2 dataset are presented.

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Session Classification: Structure function and parton densities

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