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Measurement of differential cross sections for top quark pair production using the lepton+jets final state in proton-proton collisions at 13 TeV

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Abstract

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Differential and double-differential cross sections for the production of top quark pairs in proton-proton collisions at 13 TeV are measured as a function of jet multiplicity and of kinematic variables of the top quarks and the top quark-antiquark system. This analysis is based on data collected by the CMS experiment at the LHC corresponding to an integrated luminosity of 2.3 fb⁻¹. The measurements are performed in the lepton+jets decay channels with a single muon or electron in the final state. The differential cross sections are presented at particle level, within a phase space close to the experimental acceptance, and at parton level in the full phase space. The results are compared to several standard model predictions. © 2017 CERN. © 2017 CERN, for the CMS Collaboration. Published by the American Physical Society.

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