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## Study of the underlying event in top quark pair production in p p collisions at 13 TeV (Article) [\(Open Access\)](#)

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### Abstract

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Measurements of normalized differential cross sections as functions of the multiplicity and kinematic variables of charged-particle tracks from the underlying event in top quark and antiquark pair production are presented. The measurements are performed in proton-proton collisions at a center-of-mass energy of 13 TeV, and are based on data collected by the CMS experiment at the LHC in 2016 corresponding to an integrated luminosity of 35.9 fb<sup>-1</sup>. Events containing one electron, one muon, and two jets from the hadronization and fragmentation of b quarks are used. These measurements characterize, for the first time, properties of the underlying event in top quark pair production and show no deviation from the universality hypothesis at energy scales typically above twice the top quark mass. © 2019, CERN for the benefit of the CMS collaboration.

### Funding details

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