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Charge asymmetry in top-quark pair production at 13 TeV in proton-proton collisions with the ATLAS experiment

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We report a measurement of the charge asymmetry in top quark pair production using 139 fbˆ{-1} of proton-proton collision data collected at the centre-of-mass energy of 13 TeV by the ATLAS experiment.
Events are reconstructed in the so-called resolved topology and in a topology with highly boosted top quarks. Both topologies are combined and a fully bayesian unfolding method is used to correct for limited detector acceptance and resolution.
The charge asymmetry is measured inclusively and differentially as a function of the top quark pair mass and longitudinal boost.
The measured values are in good agreement with the Standard Model NLO predictions and a non-zero inclusive asymmetry is observed at a 4 sigma confidence level.

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