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Phenomenology of top-quark pair production at the LHC: studies with the DiffTop code

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We present phenomenological applications of DiffTop, a recently developed computer program for calculations of the differential cross section for top-quark pair production at hadron colliders.

The code is based on an approximate next-to-next-to-leading order (NNLO) computation within the threshold resummation formalism in perturbative QCD.

We compare the DiffTop predictions with recent measurements at the LHC, in particular transverse momentum and rapidity distribution of the top quarks at a center-of-mass energy of 7 TeV and 8 TeV.

Author: Dr GUZZI, Marco (DESY HAMBURG)

Co-authors: Dr LIPKA, Katerina (DESY Hamburg); Prof. MOCH, Sven-Olaf (Hamburg Univ. , Desy Hamburg, Desy Zeuthen)

Presenter: GUZZI, Marco (Deutsches Elektronen-Synchrotron (DE))

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