



Contribution ID : 422

Type : Oral presentation

Top-quark pair production at hadron colliders: differential cross section and phenomenological applications with DiffTop

Thursday, 3 July 2014 11:00 (13)

We study heavy-flavor production at hadron colliders and present phenomenological results for the differential top-quark pair production cross section calculated in perturbative QCD at approximate next-to-next-to-leading order (NNLO) $O(\alpha_s^4)$.

Methods of threshold resummation in QCD are utilized for this calculation which is implemented in the computer code `\textsc{DiffTop}`. Transverse momentum and rapidity distributions of final-state top quarks are computed at the LHC center-of-mass energies and compared to recent measurements of the CMS and ATLAS collaborations, which are found to be in very good agreement.

Summary

Primary author(s) : Dr. GUZZI, Marco (DESY Hamburg)

Co-author(s) : Dr. LIPKA, Katerina (DESY Hamburg); Prof. MOCH, Sven-Olaf (University of Hamburg, DESY Hamburg, DESY Zeuthen)

Presenter(s) : Dr. GUZZI, Marco (DESY Hamburg)

Session Classification : Top-quark and ElectroWeak Physics

Track Classification : Top-quark and ElectroWeak Physics