

Contribution ID: 158

Type: Poster

## Measurements of differential cross-sections for top-quark pair production in association with additional jets in highly boosted events using the ATLAS detector

Top anti-top (tt) pair production at the Large Hadron Collider (LHC) is often observed in the presence of additional high energy radiation. Similarly the abundant tt production at the LHC allows us to probe high transverse momentum ( $p_{T}$ ) top quarks. This poster compares the latest measurements, using data recorded by the ATLAS detector from 2015 to 2018, with different QCD predictions showcasing how suited current theories are to estimating complex, multi-scale, and above leading order tt processes. Single and double-differential tt<sup>-</sup> crosssection measurements as functions of various event kinematic properties are presented. Results are derived from proton-proton collisions, at a centre-of-mass energy of 13 TeV, using events with a high  $p_{T}$  large-R jet, one muon or electron and at least two b-tagged jets in the final-state.

## **Collaboration / Activity**

ATLAS

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Session Classification: T07: Top and Electroweak Physics

Track Classification: Top and Electroweak Physics