

# DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 67

Type: **Parallel talk**

## Measurements of top quark production cross-sections with the ATLAS detector

*Tuesday, 28 March 2023 16:50 (20 minutes)*

The LHC produces a vast sample of top quark pairs and single top quarks. Measurements of the inclusive top quark production rates at the LHC have reached a precision of several percent and test advanced Next-to-Next-to-Leading Order predictions in QCD. Differential measurements in several observables are important to test SM predictions and improve Monte Carlo generator predictions. In this contribution, comprehensive measurements of top-quark-antiquark pair and single-top-quark production are presented that use data recorded by the ATLAS experiment in the years 2015-2018 during Run 2 of the LHC. A recent result from the 5 TeV operation of the LHC is also included, which already challenges the precision of the 13 TeV cross-section measurement. In addition, a first look into top-quark pair production in run 3 data at 13.6 TeV is given.

### Submitted on behalf of a Collaboration?

Yes

### Participate in poster competition?

No

**Primary author:** PRINCIPE MARTIN, Miguel Angel (Universidad Autónoma de Madrid)

**Presenter:** PRINCIPE MARTIN, Miguel Angel (Universidad Autónoma de Madrid)

**Session Classification:** WG4

**Track Classification:** WG4: QCD with Heavy Flavours and Hadronic Final States