



Contribution ID: 455

Type: **Oral**

## Top-quark pair production in Pb+Pb collisions in the ATLAS experiment

*Tuesday 8 April 2025 09:20 (20 minutes)*

In relativistic heavy-ion collisions, top quarks are expected to be attractive candidates for probing the quark-gluon plasma as well as to bring unique information about the time evolution of strongly interacting matter. We report the first study of top-quark pair production in lead-lead collisions at the centre-of-mass energy of 5.02 TeV with the ATLAS experiment at the LHC. The dataset was recorded in 2015 and 2018, amounting to an integrated luminosity of  $1.9 \text{ nb}^{-1}$ . Top-quark pair production cross section is studied in the  $e\mu$  channel. The result is compared to theory predictions based on different nuclear PDF sets.

### Category

Experiment

### Collaboration (if applicable)

ATLAS Collaboration

**Author:** POTEPA, Patrycja Anna (AGH University of Krakow (PL))

**Presenter:** POTEPA, Patrycja Anna (AGH University of Krakow (PL))

**Session Classification:** Parallel session 13

**Track Classification:** Heavy flavor & quarkonia