Contribution ID: **545** Type: **Parallel session talk**

Highlights on top quark properties and mass measurements with the ATLAS detector

Saturday 20 July 2024 15:03 (18 minutes)

The top-quark mass is one of the key fundamental parameters of the Standard Model that must be determined experimentally. Its value has an important effect on many precision measurements and tests of the Standard Model. The Tevatron and LHC experiments have developed an extensive program to determine the top quark mass using a variety of methods. In this contribution, the top quark mass measurements by the ATLAS experiment are reviewed. These include measurements in two broad categories, the direct measurements, where the mass is determined from a comparison with Monte Carlo templates, and determinations that compare differential cross-section measurements to first-principle calculations. In addition, new results on top-quark properties are shown. This includes the first observation of quantum entanglement in top-quark pair events and a test of lepton-flavour universality in emu final states.

Alternate track

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Yes

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