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Highlights of top quark measurements with the ATLAS experiment

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The top quark is the heaviest known fundamental particle and has the largest coupling to the Higgs boson. As it is the only quark that decays before it hadronizes, this gives the unique opportunity to probe the properties of bare quarks. This contribution will provide an overview of recent measurements of top-quark production cross sections and its mass and properties in proton-proton collisions with the ATLAS detector at the Large Hadron Collider at a center-of-mass energy of 13 TeV. The inclusive and differential measurements of top-quark pair and single top-quark production have reached a few-% precision and explore an entirely new kinematic regime. These standard candle measurements are complemented by measurements in previously unobserved, rare associated production processes. These measurements probe the consistency of the standard theory of elementary particles and test our understanding of the fundamental laws of nature in the TeV regime.

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