



Contribution ID: 511

Type: Poster Presentation

## Search for top squarks in final states with one electron or muon in $\sqrt{s}=13$ TeV pp collisions with the ATLAS detector

Natural supersymmetry suggests a relatively light top squark, which is the supersymmetric partner of the top quark, with a mass that might be within the discovery reach of the LHC.

A search for direct top squark pair production, in final states with one isolated electron or muon, multiple jets and missing transverse momentum, is presented. The analysis is performed using data from proton-proton collisions collected in 2015 and 2016 at a center-of-mass energy of  $\sqrt{s}=13$  TeV by the ATLAS collaboration. The search focuses on particular top squark decay scenarios leading to a neutralino in the final state, which escapes the detector and produces large missing transverse momentum. The neutralino is taken to be the lightest supersymmetric particle (LSP), which can serve as a possible candidate for dark matter.

No significant excesses in data compared to the expectations from Standard Model processes are observed, hence the results are interpreted as exclusion limits at 95% confidence level on the mass of the top squark.

### Experimental Collaboration

ATLAS

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**Session Classification:** Poster session

**Track Classification:** Higgs and New Physics