

Search for the direct production of supersymmetric particles in final states with light leptons and tau leptons with the ATLAS detector

Recent SUSY searches in final states with light leptons or taus using 139 fb^{-1} of pp collision data at $\sqrt{s} = 13 \text{ TeV}$ collected with the ATLAS detector at the Large Hadron Collider will be presented.

Both R -parity conserving and violating scenarios will be covered, including the direct pair production of squarks, gluinos, gauginos, higgsinos, and staus.

In general, the gluino (squark) mass up to 2.2 (1.7) TeV has been excluded. Gaugino and higgsino masses up to several hundred GeV to 1 TeV have been excluded depending on the production and decay scenarios. The stau exclusion limit is weaker, with masses up to several hundred GeV.

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