

# Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at $\sqrt{s}=13$ TeV using the ATLAS detector

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## Abstract

Results of a search for new phenomena in final states with an energetic jet and large missing transverse momentum are reported. The search uses proton-proton collision data corresponding to an integrated luminosity of  $3.2 \text{ fb}^{-1}$  at  $\sqrt{s}=13$  TeV collected in 2015 with the ATLAS detector at the Large Hadron Collider. Events are required to have at least one jet with a transverse momentum above 250 GeV and no leptons. Several signal regions are considered with increasing missing-transverse-momentum requirements between  $E_{\text{miss}T} > 250$  GeV and  $E_{\text{miss}T} > 700$  GeV. Good agreement is observed between the number of events in data and Standard Model predictions. The results are translated into exclusion limits in models with large extra spatial dimensions, pair production of weakly interacting dark-matter candidates, and the production of supersymmetric particles in several compressed scenarios..