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Stop searches in compressed scenarios with the ATLAS detector at the LHC

In order for supersymmetry to stabilise the Higgs boson mass, the mass of the scalar partner of the top quark (the stop) is required to be below around 1 TeV. The decay of the stop depends on the mass difference between the stop itself and the lightest neutralino, assumed to be stable. Scenarios where this mass difference is small are usually referred to as “compressed”. This poster presents a summary of stop searches targeting compressed scenarios. Using 36.5 fb^{-1} of proton-proton collisions collected by the ATLAS detector at a centre-of-mass energy of $\sqrt{s} = 13 \text{ TeV}$, these searches significantly extend the sensitivity of those performed by ATLAS during Run 1 of the LHC.

Experimental Collaboration

ATLAS

Primary author: ROZEN, Yoram (Technion (IL))**Presenter:** JONES, Samuel David (University of Sussex (GB))**Session Classification:** Poster session**Track Classification:** Higgs and New Physics