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SUSY and DM searches in final states with two top quarks and missing transverse energy

A search for SUSY and Dark Matter particles in association with two top quarks is presented. The supersymmetric partner of the top quark is searched for using a simplified SUSY model featuring stop pair production where each stop decays into a top quark and a neutralino, leading to a final state with two top quarks and missing transverse energy. The analysis strategy heavily uses machine learning techniques for event reconstruction and event discrimination, leading to significant improvements over previous analyses with the same dataset. In addition, simplified dark matter models are searched for where a new scalar or pseudoscalar mediator with Yukawa-like couplings is produced in association with two top quarks. This poster presents the latest ATLAS result using the full Run 2 dataset.

Collaboration / Activity

ATLAS

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