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Discovery prospects for the top squark at the ATLAS experiment at the HL-LHC

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Supersymmetry (SUSY) is one of the most interesting theories for Physics beyond the Standard Model and LHC experiments have searched for its evidence during Run1 and Run2. The search for direct production of top squark pairs in which each stop decays in two, three or four bodies depending on the hypotheses on its mass was performed, on data collected during Run2, in final states with two opposite-sign leptons (electrons or muons), jets and missing transverse momentum. The search placed constraints at 95% confidence level on the minimum top squark and neutralino masses up to 1 TeV and 500 GeV respectively. This contribution describes the discovery prospects of a top squark in events with two leptons in the final state in the High-Luminosity LHC phase, when the accelerator is expected to reach a center-of-mass energy of 14 TeV and an integrated luminosity up to 3000 fb-1, reporting from recently published results from the ATLAS Experiment

Alternate track

I read the instructions above

Yes

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