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Search for squarks and gluinos in final states with two same-sign or three leptons at ATLAS

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Supersymmetry (SUSY) is a well motivated extension of the Standard Model (SM) that postulates the existence of a superpartner for each SM particle. A search for strongly produced SUSY particles decaying to a pair of two isolated same-sign leptons or three leptons has been carried out using proton-proton collisions at a centre of mass of 13 TeV collected by the ATLAS experiment. The analysis benefits from a low SM background and uses looser kinematic requirements compared to other beyond the SM searches which increases its sensitivity to scenarios with small mass differences between the SUSY particles, or in which R-parity is not conserved. The results are interpreted in the context of R-parity conserving or R-parity violating simplified signal models.

Summary

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