

# When jets MET SUSY: ATLAS searches for squarks and gluinos

*Friday, 31 July 2020 09:45 (20 minutes)*

In many supersymmetric scenarios, heavy Beyond Standard Model particles would decay to multiple massive Standard Model bosons or top quarks. The subsequent decays of these Standard Model particles into leptons and/or jets may then occur with significant branching ratios and can populate the events recorded by the ATLAS detector. This talk presents ATLAS searches for coloured superparticles decaying to jets and missing transverse momentum, which utilise cutting-edge object and event reconstruction to seek a buried signal in the full Run 2 LHC dataset. Combining these methods with powerful statistical analyses allows novel constraints to be applied to natural and unnatural SUSY, as well as shedding light on the existence of Dark Matter and other novel particles. Constraints on squarks and gluinos in final states populated by one or more leptons are also presented.

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## Secondary track (number)

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