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Supersymmetry Searches in ATLAS

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Abstract: We describe the potential for discovering Supersymmetry (SUSY) using the ATLAS detector in the multi-jet and multi-lepton channels with associated missing transverse energy. A study of ATLAS sensitivity based on LHC data for typical signatures of R-Parity conserved SUSY
models is presented. The possibilities of using kinematic variables in place of reconstructed missing transverse energy for such searches
is investigated. These new variables are useful for reducing standard model backgrounds, especially for the zero lepton case. We describe
a new method for estimating the contribution towards irreducible background for SUSY events arising from Z boson production with
associated jets.

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