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Study of measurement of the $t\bar{t}$ cross section in the electron + jets channel at ATLAS using kinematic information BABAK ABI, Oklahoma State University, ATLAS COLLABORATION — The observation of the top quark will be an important milestone at LHC. We present a study of the prospects for measuring the $t\bar{t}$production cross-section with the ATLAS detector at a center-of-mass energy of 10 TeV with one electron, missing transverse energy, and at least four jets in the final state. The $t\bar{t}$ signal is discriminated from background processes using kinematic information. Several kinematic variables are combined into a multivariate discriminant to maximize the separation between signal and background. The aim of this method is to make an early measurement of the $t\bar{t}$ cross section. Once ATLAS has accumulated 50 pb^{-1} of integrated luminosity, then we expect to measure the $t\bar{t}$cross section to an accuracy of 7% from statistical uncertainties and 26% from systematic uncertainties.

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