

Abstract Submitted
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Electron/photon reconstruction in ATLAS JULIA HOFFMAN,
Southern Methodist University, ATLAS COLLABORATION¹ — The ATLAS experiment at the LHC will face the challenge of effective selection of interesting events in pp collisions at 14 TeV center-of-mass energy and rejection of an enormous QCD background. Efficient reconstruction of electrons and photons is one of the key issues in this challenge and will be important at the start of data-taking with ATLAS in 2007. In this talk an overview of current physics and system performance of the offline selection for electrons and photons is given. The results presented here are based on detailed Monte Carlo simulations. The electromagnetic calorimeter cluster algorithm and energy measurement will be described. In addition we will describe the electron identification based on the shower shape in the calorimeter and tracking information to achieve the required rejection of 10^{*5} against QCD jets. For photon identification, in addition to the shower shape in the calorimeter, recovery of photon conversions is an essential ingredient given the large amount of material in the inner tracker and this also relies heavily on the tracker performance. The electron and photon identification methods (cuts and multivariate analyses) and their performance will be discussed as a final step.

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