Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Measuring Electron-Photon Misidentification in the ATLAS Detector Using Z→ e^+e^- Decay R. DAYA, D. JOFFE, R. ISHMUKHAMETOV, R. STROYNOWSKI, Department of Physics, Southern Methodist University, ATLAS COLLABORATION — The rate at which electrons are misidentified as photons in the ATLAS detector is an essential parameter in many physics analyses. This study proposes a method to measure this rate in early data using Z boson decay. The data-driven method involves examination of Z events identified as decaying in one of three ways: to an electron- positron pair, to an electron or positron plus one photon, or to two photons. Through isolating the number of events in the eγ and $\gamma\gamma$ final states that come from misidentified electrons, an overall electron-photon misidentification rate can be extracted.

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Date submitted: 23 Oct 2009 Electronic form version 1.4