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Electron Identification with the ATLAS Barrel Transition Radiation Tracker. ALEX HARVEY¹, Hampton University, OLIVER K. BAKER², Yale, KENNETH W. MCFARLANE³, Hampton University, ATLAS COLLABORATION — The ATLAS Barrel Transition Radiation Tracker (TRT), one of the new detectors, is capable of identifying high-energy electrons in a large background of heavier particles. This capability is needed for several possible physics discoveries at the CERN LHC. Data were taken at the ATLAS Combined Test Beam (CTB) run in 2004 using beams of high-momentum electrons, muons, pions, and photons produced with the CERN SPS. Tuning the MC simulated performance to match the CTB data is expected to result in an accurate simulation of the performance of the TRT in ATLAS. Current physics simulations have benefited from CTB data. This talk will provide an overview of the comparison of the TRT electron identification performance as determined from the CTB data analysis and MC simulations.

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