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Non-photonic electron identification in the EEMC with the STAR detector[1] NARESH SUBBA, BRYON ANDERSON, WEI-MING ZHANG, Kent State University, STAR COLLABORATION — We report on progress to identify non-photonic electrons in the extended pseudo-rapidity range η =1.1 to 1.5 and transverse momentum pT= 1.5 to 6.0 GeV/c possible with the end-cap electromagnetic calorimeter (EEMC) with the STAR detector system at RHIC. This identification will enable one to extract double differential electron distributions in order to help study open charm production in proton-proton interactions. In order to extract non-photonic electrons it is necessary to determine electron purity and photonic background removal efficiency. Backgrounds from both hadronic and photonic contributions are identified. The hadrons can be identified by the difference in energy deposition. The photonic contributions arise mainly from two sources, one from gamma conversion and the other from the (Dalitz) decay of mesons. Both processes can be identified from the observation of opposite-sign electron-positron pairs with low invariant mass. Detection efficiencies of photonic electrons can be obtained with Monte-Carlo simulations.

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