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**Measurement of Electron-Muon Correlations from Semi-Leptonic D Decay in 200 GeV p+p Collisions at RHIC-PHENIX** TATIA ENGELMORE, Columbia University, PHENIX COLLABORATION — Charm production is a valuable probe of the early stages of a heavy ion collision. Correlated electron-muon pairs are a signature of semi-leptonic D decays, and a measurement of D mesons provides information on charm quark energy loss in the hot medium. The energy loss of heavy quarks is still not fully understood, so it is vital to investigate different decay channels of charm mesons to better understand this process. Measurements of electron-muon pairs suffer less from background than  $e^+e^-$  or  $\mu^+\mu^-$  pairs since neither direct lepton production nor resonance decays produce this type of correlated signal. Another advantage is that because electrons are measured in the central arms and muons are measured in the forward region in PHENIX, open charm can be probed in a rapidity region different from previous dilepton measurements. Studying electron-muon pairs in p+p collisions provides an important baseline for the study of these processes in d+Au and Au+Au collisions. The data in this analysis was obtained during the 2006 RHIC run of p+p collisions at 200 GeV. The current status of this analysis will be presented.

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