Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Electron-Muon Correlations in p+p and d+Au at PHENIX at $\sqrt{s} = 200$ GeV TATIA ENGELMORE, Columbia University, PHENIX COLLABORATION — Heavy quarks are useful in understanding the hot, dense medium created in a heavy ion collision, and are an important test of proposed mechanisms of parton energy loss. In order to study heavy quark production, electron-muon pairs are a valuable measurement because these are produced with a clean signal. PHENIX detects electrons in the central arms ($|\eta| < 0.35$) and muons in the forward ($1.4 < \eta < 2.1$) and backward ($-2.1 < \eta < -1.4$) regions, so it is sensitive to heavy quark pairs produced in an intermediate rapidity range. To understand the behavior of $e - \mu$ pairs in the medium, we first need to establish a baseline measurement in p+p, as well as determine the cold-matter effects in d+Au collisions. In d+Au, a comparison of the yield of pairs with muons at forward rapidity (small x) to pairs with muons at backward rapidity (large x) could help to better understand gluon saturation and shadowing effects on heavy quarks versus enhancement from anti-shadowing. Results of $e - \mu$ azimuthal correlations in p+p will be reviewed, and update on $e - \mu$ in d+Au collisions will be presented.

Tatia Engelmore
Columbia University

Date submitted: 22 Oct 2009 Electronic form version 1.4