

Abstract Submitted
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Electron-Muon Correlations in p+p and d+Au at RHIC-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 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 and muons in the forward and backward 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 saturation and shadowing effects on heavy quarks versus enhancement from antishadowing. Results of $e - \mu$ azimuthal correlations in $p+p$ will be presented and related to heavy quark jet properties. Also, recent work on $e - \mu$ in $d+Au$ collisions will be discussed.

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