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Single Muon Production at Forward Rapidity in p+p Collisions at $\sqrt{s_{NN}}$ = 200GeV DONALD HORNBACK, University of Tennessee — The suppression of quarkonium production is predicted as one of the characteristics of a potential phase transition of nuclear matter from confined to deconfined quarks and gluons. Charm and beauty quark production in p+p collisions is sensitive to the initial conditions prevailing in heavy ion collisions at the Relativistic Heavy Ion Collider (RHIC). Heavy flavor quark production may be studied via semi-leptonic decay of D and B mesons into muons. The measurement of heavy quark production provides a baseline for disentangling initial state effects, such as initial gluon density, from final state effects, such as color screening and recombination, which are expected to be present in a deconfined medium. The extraction of an open charm cross-section is also essential in establishing a baseline for total charm production used to normalize charmonium production. PHENIX detectors measure muons at $1.2 < |\eta| < 2.4$, enabling the study of open charm production at forward rapidity. The current status of single muon studies for Run-4 p-p data by the PHENIX collaboration is presented.

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