

Abstract Submitted  
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**Analysis of open bottom production in 500 GeV p+p collisions using the PHENIX detector** LAURA PATEL, Georgia State University, PHENIX COLLABORATION — Dilepton pairs resulting from the fragmentation and decay of open charm (DD) and open bottom (BB) mesons are an important tool to probe the hot and dense matter created from nucleus-nucleus collisions at the Relativistic Heavy Ion Collider (RHIC). In the high mass region, between the  $J/\Psi$  and  $\Upsilon$  resonances, the dilepton mass spectrum will be dominated by the semi-leptonic decay of pairs of D mesons and B mesons. The status of the analysis of correlated like-sign dimuons from pairs of B mesons of  $\sim 6.3pb^{-1}$  data from p+p collisions at  $\sqrt{s} = 500$  GeV within the PHENIX muon arms acceptance ( $1.2 < |y| < 2.2$ ) will be presented. In the mass region between 4.5 and 12 GeV, the only source of primary correlated like-sign dimuon pairs will come from the decay of B meson pairs, due to neutral meson particle-antiparticle mixing. Using the properties of B-meson decays the differential cross section can be calculated. In the future, this analysis method could be applied to the  $\sqrt{s} = 200$  GeV p+p collisions in order to determine a baseline for d+Au and Au+Au.

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