

Abstract Submitted
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Studies of the heavy flavor production with the Forward Vertex Silicon Detector at PHENIX MATTHEW DURHAM, Los Alamos National Lab, PHENIX COLLABORATION — Because of their large mass, c/b quarks are expected to lose less energy through gluon radiation than lighter quarks in the Quark Gluon Plasma (QGP). PHENIX has measured the production of non-prompt J/ψ from $B \rightarrow J/\psi$ decays through the dimuon channel at forward and backward rapidities in 510/200 GeV $p+p$ and 200 GeV Cu+Au collisions. The analysis of distance of closest approach of muons from the B meson decay using the Forward Silicon Vertex Detector (FVTX) was used for these measurements. The PHENIX results, along with the ones from Tevatron and LHC, show a smooth increase of bottom production with center of mass energy in $p+p$ ($p+\bar{p}$) collisions from 0.2 to 13 TeV, Next-to-leading order perturbative Quantum Chromodynamics (NLO pQCD) predictions are consistent with the data. The B hadron production in Cu+Au collisions is found to be consistent with the binary scaling in $p+p$ collisions and recent nuclear parton density functions (nPDF). The status of the forward non-prompt J/ψ production in 200 GeV Au+Au collisions and the ongoing analysis of charm/bottom decayed single muons in $p+p$, Cu+Au and Au+Au collisions at PHENIX to explore the mass/ flavor dependent parton energy loss in the QGP will be presented in this talk.

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