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PHENIX results on heavy-flavor yields at forward rapidity

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PHENIX installed and commissioned a forward silicon vertex tracker (FVTX) in 2012. The complete detector covers the rapidity range of $1.2 < |y| < 2.2$, and each arm has full azimuthal coverage. This acceptance matches that of the PHENIX muon arms. With the barrel silicon vertex detector, the FVTX greatly improves tracking to the collision vertex, and is able to identify secondary particles from in-flight decays. We present the current status of the analysis of c and b production in Cu+Au collisions at $\sqrt{s_{NN}} = 200$ GeV using the distance of closest approach to the event vertex of inclusive decay muons, and of b production from J/ψ decay. We will also show the current status of a study of ψ' production in Cu+Au collisions.

Preliminary results on a reference measurement of ψ' in $p+p$ collisions at $\sqrt{s} = 510$ GeV will be shown. The c and b yields in Cu+Au collisions provide insight into the rapidity dependence of energy loss of heavy flavor in hot nuclear matter. The Cu+Au collisions also offer the opportunity to study ψ' dissociation relative to that of the J/ψ as a function of path length in the nuclear medium.

On behalf of collaboration:

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