

Abstract Submitted  
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**B<sup>0</sup> Meson Reconstruction Through the J/ψ Decay Channel with the Heavy Flavor Tracker at STAR** JOSHUA WEINER, California Institute of Technology, STAR COLLABORATION — The Solenoidal Tracker at RHIC (STAR) is an ongoing experiment at the Relativistic Heavy Ion Collider (RHIC) located at Brookhaven National Laboratory. Its goals are to observe and study the characteristics of the quark-gluon plasma produced by nuclear collisions. The Heavy Flavor Tracker (HFT) is a new high-resolution vertex detector that has been proposed by STAR. The HFT will allow high-resolution tracking of charged particles, enabling the identification of particles containing charm and bottom quarks that decay hundreds of microns from the primary interaction vertex. The B<sup>0</sup> → J/ψ X and J/ψ → e<sup>+</sup>e<sup>-</sup> decay channels form a good candidate for B<sup>0</sup> meson detection due to the presence of the dielectron pair generated at a large distance from the primary vertex. Reconstruction of B<sup>0</sup> events mixed with Au-Au 200 GeV events was performed with HIJING, GEANT, and the STAR software library. We will show how the HFT can identify the B<sup>0</sup> events and what can be learned by identifying the B mesons.

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