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Reconstruction of charmed decays using microvertexing techniques with the STAR Silicon Detectors JONATHAN BOUCHET, Kent State University, STAR COLLABORATION — Due to their production at the early stages, heavy flavor particles are of interest to study the properties of the matter created in heavy ion collisions. Direct topological reconstruction of D and B mesons, as opposed to indirect methods using semi-leptonic decay channels [1], provides a precise measurement and thus disentangles the b and c quarks contributions [2]. In this talk we present a microvertexing technique used in the reconstruction of D^0 decay vertex ($D^0 \rightarrow K^- \pi^+$) and its charge conjugate. The significant combinatorial background can be reduced by means of secondary vertex reconstruction and other track cut variables. Results of this method using the silicon detector information of the STAR experiment at RHIC will be presented for the Au+Au system at $\sqrt{s_{NN}} = 200$ GeV.

- [1] B. I. Abelev, et al., Phys. Rev. Lett. **98** (2007) 192301
[2] N. Armesto et al., Phys. Lett. B**637** (2006) 362-366.

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