Measurements of Open Charm Mesons with the Heavy Flavor Tracker of the STAR Experiment at RHIC

Spiros Margetis[a] for the STAR Collaboration

[a] *Kent State University, Ohio, USA*

The Heavy Flavor Tracker (HFT), a new four-layer silicon vertex detector upgrade for the STAR experiment at RHIC uses two air-cooled layers of ultra thin sensors (50 microns) with 20x20 microns active pixel (MAPS) technology surrounded by two conventional silicon pad and strip layers. The full system achieves a track impact parameter resolution of about 30 microns for pions of 1 GeV/c momentum and it is designed for full topological reconstruction of open heavy flavor decays. In 2014 the HFT system had its first physics run with Au+Au collisions at 200 GeV recording about 1.2 Billion minimum bias events. We report on results from this data set on elliptic flow and nuclear modification factor (R_{AA}) for open charm mesons from the analysis of this sample. We also compare with earlier results, model predictions and discuss their physics implications.