

D^\pm meson production in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV measured by the STAR experiment

Charm quarks are mainly created in hard processes at the beginning of the heavy-ion collisions and can be used as a tool to study properties of the Quark-Gluon Plasma (QGP). The modification to D-meson production in heavy-ion collision is sensitive to the energy loss of charm quarks in the QGP. The Heavy Flavor Tracker was installed at the STAR experiment in 2014 and enables the topological reconstruction of the decay vertices for open charm mesons. It significantly improves the measurement precision on charm mesons. Besides the measurement on D^0 , D^\pm provides an additional handle and cross-check to study the interaction between charm quark and medium.

In this poster, we will present measurements of D^\pm production in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV. D^\pm mesons are reconstructed topologically via the hadronic decay channel $D^\pm \rightarrow K^\mp \pi^\pm \pi^\pm$ from the data collected in 2014 with the Heavy Flavor Tracker. The invariant yields of D^\pm and the ratio of D^\pm/D^0 as a function of transverse momentum as well as centrality will be shown.

Preferred Track

Open Heavy Flavors

Collaboration

STAR

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