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Production of D± Mesons in Au+Au Collisions at √sNN = 200 GeV Measured by the STAR Experiment

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Charm quarks are primarily produced at early stages of ultra-relativistic heavy ion collisions and can be used to probe the properties of the quark-gluon plasma (QGP) created in these collisions. Final-state open charm mesons are usually used experimentally to study the charm quark interaction with the medium. For example, suppression of D-meson production in heavy-ion collision is sensitive to the energy loss of charm quarks in the QGP. In this poster, the production of $D^{\pm}$ mesons in Au+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV measured by the STAR experiment using data taken in 2016 is presented. Precise topological reconstruction of secondary decay vertices enabled by the STAR Heavy Flavor Tracker through the hadronic decay channel, $D^{\pm} \rightarrow K^{\mp}\pi^{\pm}\pi^{\pm}$, is used in this analysis. The nuclear modification factor of the $D^{\pm}$ meson will be shown as a function of transverse momentum as well as the collision centrality.

Content type

Experiment

Collaboration

STAR

Centralised submission by Collaboration

Presenter name already specified

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