

Measurements of open bottom production through multiple decay channels in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV with STAR experiment

Wednesday, 9 October 2019 18:00 (1 hour)

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Heavy quarks are predominantly produced at early stages of relativistic heavy-ion collisions before the creation of the deconfined QCD medium, known as the Quark-Gluon Plasma (QGP). Heavy quarks subsequently interact with the QGP throughout its whole evolution, and thus are suggested as an excellent probe to study the properties of the QGP. Observed suppression of high- p_T electrons from decays of heavy-flavor hadrons in

Au+Au collision with respect to p+p collisions has been interpreted as being due to energy loss of the heavy flavor quarks in the QGP. The energy loss is expected to be different for bottom and charm quarks because of their different masses.

In this talk, we will present measurements of electrons, D^0 and J/Ψ from open bottom hadron decays in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV by the STAR experiment. These decay products are topologically identified using information from the Heavy Flavor Tracker, a silicon vertex detector installed at STAR during the period of 2014 - 2016. These results will be compared to those of open charm hadrons to study a mass dependence of the parton energy loss in the QGP at RHIC.

Abstract Type

Talk

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Session Classification: S5: Poster 分会场

Track Classification: S5 分会场: Poster