Recent heavy-flavor measurements from RHIC

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Abstract

Heavy quarks are predominantly produced in the initial hard partonic scatterings, and thus their production cross-section can be calculated by pQCD. Quarkonia and heavy-flavor hadrons can also be employed as tools for investigating heavy-quark dynamics in Quark-Gluon Plasma created in heavy-ion collisions. The changes in the production rate of quarkonia in the QGP are indicative of the effects of both static and dynamic dissociation processes induced by the medium, as well as contributions from regeneration. On the other hand, the reduction in production rate and the directional asymmetry of open heavy flavor are linked to the heavy-quark energy loss and the level of thermalization in the QGP medium.

In this contribution, the recent open heavy flavor and quarkonia measurements in p+p and heavy-ion collisions from RHIC will be discussed.