

10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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New PHENIX Results on Mid-Rapidity Bottom and Charm Production in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV

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Energy loss of quarks in the hot and dense medium has been studied for decades. Both the experimental and theoretical efforts hinted that the energy loss is quark mass dependent (the yield of heavier quarks will be less suppressed). It was found that the electrons from heavy quarks (charm, and bottom) are less or similarly suppressed compared to that of light hadrons. The mass ordering of the suppression between charm and bottom was not clear by now due to large experimental uncertainties. We have fully exploited the events recorded at PHENIX from Au+Au collisions from RHIC Year-2014 run, and with the new charm and bottom p_T spectra from p+p collisions from Year-2015 run, we can obtain the new R_{AA} for charm and bottom quarks with smaller uncertainties. We will show the latest results on the R_{AA} of electrons and unfolded hadrons from charm and bottom quarks separately, and implications on the understanding of the quark mass dependence of the energy loss.

Collaboration (if applicable)

PHENIX

Track

Heavy Flavor and Quarkonia

Contribution type

Contributed Talk

Author: DAVID, Gabor (Brookhaven National Laboratory)

Presenter: Dr KHATIWADA, Ajeeta (Purdue University (US))

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