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Heavy Quark Nuclear Modification at Forward Rapidity in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV

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Experimental results from RHIC and LHC show an indication of a mass ordering on the quark energy loss when crossing the hot and dense medium formed in A+A collisions. The ordering is more evident at low p_T region, where the quark mass is more relevant for the energy loss mechanisms. However, this final-state quark energy loss competes with other effects such as nuclear shadowing and initial-state energy loss which may also depend on the quark mass. This presentation is going to show the status of the analysis of charm and bottom nuclear modification (R_{AA}) in the rapidity $1.2 < |y| < 2.2$ at $\sqrt{s_{NN}}=200$ GeV. These measurements are performed by the PHENIX forward vertex detectors and muon arms using the $B \rightarrow J/\psi + X$ and muon decay channels. This rapidity region allows the exploration of different initial-state effect contributions to the heavy flavor R_{AA} . Besides, the forward measurements have more access to the low- p_T region because of the additional boost of the non-prompt decay products from heavy flavor hadrons.

Collaboration (if applicable)

PHENIX

Track

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