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Single electrons from heavy flavor decays in 200 GeV Cu+Cu collisions at PHENIX

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Since heavy flavor quarks are produced early in the collision, they experience the full evolution of the medium and are thus a good probe of medium effects. Electrons from open heavy flavor have previously been measured for p+p, Au+Au and d+Au collisions at the Relativistic Heavy Ion Collider (RHIC) by PHENIX. In the most central Au+Au the yield is suppressed relative to a N_{coll} scaled p+p which suggests that the heavy quarks lose a significant portion of their initial energy in the medium. A similar analysis done in the d+Au collisions suggests that there are cold nuclear matter effects that are masked by the hot, dense medium produced in the Au+Au collisions. New results from Cu+Cu collisions provide an important look at the N_{coll} region between the d+Au and Au+Au systems. The Cu+Cu results will be shown for different centralities along with a comparison to the d+Au and Au+Au results. The nuclear modification factor, RAA, will also be shown as a function of N_{coll} , giving a more complete picture as the cold nuclear matter effects in d+Au collisions are taken over by the effects of the hot medium in the Au+Au system.

Primary author: APADULA, Nicole

Presenter: APADULA, Nicole

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