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Single electrons from heavy flavor decays in Au+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV in PHENIX RUN14 data

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Heavy quarks (charm and bottom) are important probes of the energy loss mechanism in the quark gluon plasma formed in high-energy heavy-ion collisions. Heavy quarks are produced only by hard scattering in the initial stage of a heavy-ion collision, since the charm and bottom masses are larger than the energy scale of QCD ($m_{c,b} \gg \Lambda_{QCD}$). The energy loss of heavy quarks would be expected to be smaller than that of light quarks due to the Dead-Cone-Effect that leads to a strong suppression of small angle gluon radiation.

We will present the status of the analysis of single electrons from heavy flavor decays in Au+Au collisions from the PHENIX Run14 dataset. The goal of the analysis is to understand the quark mass dependence of QCD medium effects via the p_T spectrum of single electrons from charm and bottom hadron decays separately. The first step of the analysis is the evaluation of key variables such as the Distance of Closest Approach (DCA) distributions of electrons and hadrons, inclusive electron p_T spectra and variables for electron identification. The total resolution of the transverse DCA and primary vertex is ~ 80μm at p_T > 1GeV/c, which is enough to separate decay electrons from charm and bottom hadrons.

On behalf of collaboration:

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