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## Energy loss and flows of charm and bottom quarks from single electron measurements in Au+Au collisions at PHENIX

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Charm and bottom production is a powerful tool to study the properties of the Quark Gluon Plasma (QGP). Heavy quarks lose their energies via final state interactions in the QGP. The magnitude of the energy losses is expected to depend on their mass. The elliptic flow of charm and bottom also provide a medium coupling of heavy flavor with the QGP.

PHENIX performed the statistical separation of electrons from charm and bottom decays using the distance of closest approach from the primary vertex with the silicon vertex detector (VTX) covering electrons with  $1 < p_T / (GeV/c) < 9$  in the region  $|y| < 0.35$ .

The centrality dependence of the  $c \rightarrow e$  and  $b \rightarrow e$  nuclear modifications and the elliptic flow parameter  $v_2$  are measured using a large amount of statistics recorded in the Au+Au run taken in 2014 at  $\sqrt{s_{NN}}=200$  GeV. In this poster, the final results of electrons from charm and bottom decays in Au+Au collisions are presented and their nuclear modifications and flows are discussed.

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