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Measurement of heavy-flavor electron production in Au+Au collisions at $\sqrt{s_{NN}} = 54.4$ GeV at STAR

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Studying heavy flavor can enhance our comprehension of parton interactions with the Quark-Gluon Plasma (QGP). Due to their significant mass, heavy quarks (charm and bottom) are mainly generated during the initial phase of high-energy heavy-ion collisions when hard scatterings are prevalent, and experience the entire evolution of the QGP. One way to study the production of heavy quarks is through the measurement of Heavy Flavor Electrons (HFE) - electrons emitted from the semi-leptonic decays of heavy-flavor hadrons.

In this contribution, we will present measurements of HFE at low transverse momentum (p_T) in Au+Au collisions at $\sqrt{s_{NN}} = 54.4$ GeV using data taken in 2017 by the STAR experiment. We will show the yields and central-to-peripheral nuclear modification factors as functions of p_T and centrality.

Category

Experiment

Collaboration (if applicable)

STAR Collaboration

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