

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

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## Abstract

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

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