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Measurements of electron production from heavy flavor decays in p+p and Au+Au collisions at √⊠NN = 200 GeV at STAR

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Heavy quarks are predominantly produced at early stages of high-energy heavy-ion collisions due to their large masses. Studies of interactions between heavy quarks and Quark-Gluon Plasma (QGP) in various collision centralities can provide new insights to the properties of QGP. Heavy quark production in p+p collisions is a baseline to similar measurements in heavy-ion collisions and is expected to be well described by perturbative Quantum Chromodynamics (pQCD) calculations. Thus measurements of heavy quark production via measuring the electrons from semi-leptonic decays of heavy flavor hadrons, also known as Non-Photonic Electron (NPE), in both p+p and Au+Au collisions are crucial.

In this talk, we will present the new results of NPE production in p+p collisions at √s = 200 GeV from the STAR experiment with much improved precision and wider kinematic coverage than previous measurements. We will also report measurements of the nuclear modification factor, RAA, for NPE production in Au+Au collisions at √⊠NN = 200 GeV.

Summary

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