

Abstract Submitted
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Measurement of single electron azimuthal angular anisotropy v_2 from Au+Au collisions at $\sqrt{s_{NN}}$ 200 GeV¹ WEIJIANG DONG, University of California, Los Angeles, STAR COLLABORATION — We present results of v_2 measurement for single electrons/positrons covering a pT range from 1.5 to 6 GeV/c. These electrons are mostly from semi-leptonic decays of heavy quark mesons whose pT range covers approximately from 3 to 12 GeV/c. The elliptic flow parameter v_2 in this pT range addresses two important physics issues: the hadronization of bulk partonic matter and the energy loss of heavy quarks in the dense medium created in nucleus-nucleus collisions at RHIC. A Constituent Quark Number(CQN) scaling in v_2 has been observed in hadrons of light quarks, which has been interpreted as features of hadronization of bulk partonic matter through quark coalescence or recombination. If the heavy quark v_2 follows the same CQN scaling as light quarks, it implies that these heavy quarks may have become a part of the bulk partonic matter through dynamic evolution in the medium and its hadronization mechanism is similar to that of light quarks. At pT above the recombination region, the energy loss is one possible dynamics to create azimuthal angular anisotropy. The measurement of v_2 for heavy quark mesons will complement the measurement of nuclear modification factor in determining the heavy quark energy loss.

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