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Measurement of D^0 meson elliptic anisotropy in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV from STAR using the two-particle correlation method

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The observed azimuthal anisotropies of light flavor hadrons suggest large partonic collectivity in the hot and dense medium created in relativistic heavy-ion collisions.

Since heavy quark interactions with the medium may be different from light quark interactions, the measurements of heavy quark elliptic anisotropy is complementary to those of light quarks and can provide new insight in understanding the path length dependence of heavy quark energy loss in the medium and the degree of thermalization.

In this poster, we present the STAR measurement of elliptic anisotropy (v_2) of D^0 in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV using the two-particle correlation method.

The data were taken in the first year of physics running with the new STAR Heavy Flavor Tracker detector, which greatly improves open heavy flavor hadron measurements by the topological reconstruction of secondary decay vertices.

The results will be compared with measurements of other heavy flavor and light flavor particles, as well as measurements from other experiments.

On behalf of collaboration:

STAR

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