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Elliptic flow measurement of J/ψ in PHENIX Run14 Au+Au at $\sqrt{s_{NN}} = 200$ GeV

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The Quark Gluon Plasma (QGP) produced in relativistic heavy ion collisions exhibits a nearly perfect fluid behavior. This behavior is observed as strong azimuthal correlations between the produced particles. Measurement of J/ψ azimuthal correlations can provide key information about the charm quark dynamics in the QGP. Strong elliptic flow of J/ψ has been observed in Pb+Pb collisions at the LHC and attributed to J/ψ production through coalescence of charm quarks that flow with the medium. At RHIC, the J/ψ flow measurements at mid-rapidity are presently inconclusive, while measurements of the nuclear modification factors at mid- and forward rapidity hint that coalescence may play a role in central collisions. The PHENIX experiment at RHIC has a unique coverage at forward rapidity ($1.2 \leq |\eta| \leq 2.2$) and a large sample of $J/\psi \to \mu^+ + \mu^-$ decays collected in 2014 in Au+Au collisions at 200 GeV. We will present a statistically improved measurement of J/ψ elliptic flow at RHIC at forward rapidity.

Category

Experiment

Collaboration (if applicable)

PHENIX

Primary author: BICHON III, Luis

Presenter: BICHON III, Luis

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