

J/ ψ azimuthal anisotropy in Au+Au collisions at 200 GeV

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In relativistic heavy-ion collisions, J/ ψ can be produced via different mechanisms and the large mass of the charm quark makes it a valuable probe to the thermalization of the medium. The study of J/ ψ azimuthal anisotropy can allow for the disentangling of a few interesting dynamic processes, e.g., J/ ψ produced from direct pQCD processes, and J/ ψ produced from recombination of charm quarks within the medium. J/ ψ produced from direct pQCD processes have little azimuthal anisotropy due to the lack of collectivity and initial emitting azimuthal preference, while J/ ψ produced from recombination of charm quarks are expected to inherit considerable azimuthal anisotropy if charm quarks have finite elliptic flow.

In this talk, we will present J/ ψ azimuthal anisotropy in Au+Au collisions at 200 GeV, from data taken by STAR during RHIC operation in year 2010 and 2011. The result will be presented as a function of centrality of Au+Au collisions and J/ ψ transverse momentum.

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