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Measurement of J/ψ Polarization via Dielectron Decay Channel in $\sqrt{s_{NN}} = 200$ GeV d+Au and Au+Au Collisions by the PHENIX Experiment¹ ALEXANDRE LEBEDEV, Iowa State University, PHENIX COLLABORATION — Charmonium, and, in particular, J/ψ , is considered as a leading probe of the hot and dense matter created in relativistic heavy ion collisions. A good understanding of the J/ψ production mechanism is necessary for studying the properties of this hot and dense matter. One important diagnostic tool for studying J/ψ production mechanisms is the measurement of J/ψ polarization. Such measurement helps to differentiate among various production models, and understand production and subsequent hadronization of charm quark pairs. We present the results of the J/ψ polarization measurement in d+Au and Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV by the PHENIX experiment at RHIC. J/ψ polarization is measured as a function of transverse momentum.

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