

Constraining Cold Nuclear Matter Effects on J/ψ production in Au +Au Collisions

Recent results from PHENIX on J/ψ production in d+Au collisions have shown that J/ψ 's are significantly suppressed at forward rapidity. This has interesting implications for J/ψ suppression in Au+Au collisions, and may provide an answer to the J/ψ puzzle. We try to constrain these cold nuclear matter (CNM) effects by fitting the EPS09 parametrization plus a break-up cross section to the PHENIX data in each rapidity range. In contrast to previous work, a stronger than linear dependence of initial-state shadowing on the nuclear thickness is employed to better fit the d+Au data. We extrapolate our results to predict the CNM effects on J/ψ production in Au+Au collisions and compare with the PHENIX results. We find that some J/ψ suppression remains in central collisions after factoring out the CNM effects and that the forward and midrapidity data are now in agreement within uncertainties.

Primary author: MCGLINCHEY, Darren (Florida State University)

Co-author: FRAWLEY, Anthony (Florida State University)

Presenter: MCGLINCHEY, Darren (Florida State University)

Track Classification: Heavy flavor and quarkonia production