J/ψ Production at RHIC in a QGP

R. L. Thews and J. Rafelski

University of Arizona, Tucson, AZ 85721 USA

Presented by: R. L. Thews

Abstract

In central collisions at RHIC, multiple charm quark production will allow J/ψ formation from a quark and an antiquark which were originally produced in separate incoherent interactions, utilizing the mobility of the quarks in a decofined region of QGP. Our model estimates predict a dramatic increase for observed J/ψ's at RHIC, over that predicted due to extrapolation of color-screening or gluon dissociation mechanisms from the lower CERN-SPS energies. The centrality and energy dependence of this effect will be readily observable by Star and Phenix. Thus J/ψ abundance will serve as an even more useful probe of deconfinement at RHIC.

Preprint submitted to Elsevier Preprint *20 December 2000*