

THERMAL CHARM AND CHARMONIUM PRODUCTION IN QUARK GLUON PLASMA

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We study the effect of thermal charm production on charmonium regeneration in high energy nuclear collisions. By solving the kinetic equations for charm quark and charmonium distributions in Pb+Pb collisions, we calculate the global and differential nuclear modification factors $R_{AA}(N_{part})$ and $R_{AA}(p_t)$ for J/ψ s. Due to the thermal charm production in hot medium, the charmonium production source changes from the initially created charm quarks at SPS, RHIC and LHC to the thermally produced charm quarks at Future Circular Collider (FCC), and the J/ψ suppression ($R_{AA} < 1$) observed so far will be replaced by a strong enhancement ($R_{AA} > 1$) at FCC at low transverse momentum.