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Charmonium suppression in a baryon rich quark-gluon plasma

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We have investigated the survival probability of different charmonium states, in a high baryon density parton plasma, expected to be produced in nuclear collisions at FAIR. Charmonia are assumed undergo complete dissociation by color screening, if the in-medium Debye radius becomes comparable to the spatial size of the corresponding bound state. Results indicate a non-trivial dependence of the suppression pattern on the plasma evolution dynamics. A much larger magnitude of suppression is foreseen induced by cold nuclear matter compared to that due to plasma screening.

Primary author: Mr BHADURI, Partha Pratim (Variable Energy Cyclotron Centre)

Presenter: Mr BHADURI, Partha Pratim (Variable Energy Cyclotron Centre)

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