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Quarkonia Melting in expanding hot and dense medium at RHIC

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— It is observed that J/ψ production in Au+Au collisions at RHIC is stronly suppressed compared to the expectation from $p+p$ collisions. This may be the key to understand the properties of hot and dense medium created at RHIC since suppression would depend on the temperature of the medium and the size of $q\bar{q}$ system. One of the proposed scenarios is the sequential melting of charmonium states, where the absense of the feed down J/ψ may occur just above the critical temperature (T_c) and melt of directly produced J/ψ at much higher temperature. To study the sequential charmonia suppression in a dynamically evolving matter produced in Au+Au collisions at RHIC, we have recently developed a hydro+J/ψ model. Melting temperatures of J/ψ, χ_c and $\psi\prime$ are studied to describe momentum dependence and centrality dependence of the suppression and the results show melting temperature of J/ψ can be determined around 2 T_c. Details of this model and results of the model calculations will be presented and discussed.

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