Contribution ID: **776** Type: **Poster**

Effects of memory on heavy-quarkonium dynamics in quark gluon plasma

Heavy-Quarkonia evolution in quark-gluon plasma (QGP) can be studied using the framework of open quantum systems. The density matrix of the quarkonia satisfies a simple Lindblad-type equation if one assumes that the binding energy E_b is much smaller than the medium temperature T. This approximation does not hold for a significant part of the QGP evolution. We study the evolution of quarkonia in the regime when $E_b \sim T$ by solving general master equations for the density matrix, which include the effects of memory. We calculate suppression of Υ states at CMS and RHIC energies. For the background medium, we use results from a realistic viscous 2+1 hydrodynamic simulation, which gives a good description of the phenomenology of the soft particles.

Category

Theory

Collaboration (if applicable)

Author: B R, Vyshakh (Tata Institute of Fundamental Research, Mumbai)

Co-author: SHARMA, Rishi (Tata Institute of Fundamental Research, Mumbai)

Presenter: B R, Vyshakh (Tata Institute of Fundamental Research, Mumbai)

Session Classification: Poster session 2

Track Classification: Heavy flavor & quarkonia