

10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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Type: **Oral Presentation**

X(3872) Transport in High-Energy Heavy-Ion Collisions

Wednesday, June 3, 2020 1:25 PM (20 minutes)

We investigate the in-medium kinetics of the X(3872) particle in ultrarelativistic heavy-ion collisions. Toward this end we employ our well-tested rate equation approach for charmonia to compute the time evolution of the X(3872) distribution with its two pertinent transport parameters, i.e., the equilibrium limit and inelastic reaction rate. The former is entirely determined by the X(3872)'s mass and the previously calculated charm-quark fugacity. The key new parameter is the reaction rate, believed to depend on the structure of the X(3872) particle ("large" for a DD^* molecule and "small" for a diquark-antidiquark bound state). We evaluate the sensitivity of the final X(3872) abundance and p_T spectra on different scenarios for its width and initial conditions. In particular, within the same transport approach, we obtain results for the $X / \Psi(2S)$ ratio as measured in experiment.

Collaboration (if applicable)

Track

Heavy Flavor and Quarkonia

Contribution type

Contributed Talk

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