

Lattice study of correlators for quarkonium decay

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Quarkonia are among the most studied probe of the quark-gluon plasma created in relativistic heavy ion collisions. But a nonperturbative theoretical formalism for quarkonia in plasma is difficult, and one relies on an effective field theory formalism coupled with lattice studies. If the system size is much less than the inverse temperature, as is expected for bottomonia, the interaction of the system with the medium can be approximated by a color electric field, and the decay of the quarkonia can be studied as a transition to an octet state through the interaction with the medium. In an open quantum system framework, such interactions are encapsulated in transport coefficients.

We will present results of a lattice study of the correlators relevant for this process, at temperatures in the range 1-2 times the deconfinement temperature, for a gluonic plasma. We will also discuss the difference between this transport coefficient and the one used for the diffusion of a heavy quark in the plasma.

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