XIIIth Quark Confinement and the Hadron Spectrum



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On nonequilibrium quarkonium evolution in the QGP fireball

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A Lindblad equation for the evolution of heavy quarkonia in QGP has recently been derived from potential non-relativistic QCD (pNRQCD) and open quantum system framework. We derive the classical limit of the evolution equations for color-singlet and color-octet quarkonia states. Within the classical approximations, we are able to write the evolution equations respectively as a Langevin equation and Boltzmann equations in two different regimes. This allows us to identify the difference between quantum and classical evolution, and examine the effect of classical approximations.

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