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Kinetic and Chemical Equilibration of Quark-Gluon Plasma

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We establish a non-equilibrium QCD evolution model with light quark and gluon degrees of freedom. By including both elastic and inelastic scattering for quarks and gluon, the model is proficient to describe kinetic and chemical equilibration of quark-gluon plasma, and thus connect the initial (semi-) hard production of partons at early times with the hydrodynamic description of a near-thermalized quark-gluon plasma after the first fm/c of collision. Within this approach, we investigate the time scales and mechanisms for kinetic and chemical equilibration of the quark-gluon plasma at zero and non-zero net-baryon density, and elaborate on the connections to jet quenching physics.

Collaboration (if applicable)

Track

Initial State

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