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Typ: Talk

Radiative energy loss of heavy quark through soft gluon emission in QGP

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The Low's theorem is applied to the soft gluon emission from heavy quark scattering in quark-gluon plasma (QGP). The QGP is described by the DQPM (Dynamical QuasiParticle Model) which reproduces the EoS from IQCD at finite temperature and chemical potential. We show that if the emitted gluon is soft and of long wavelength, the scattering amplitude can be factorized into the scattering part and the emission part and the Slavnov-Taylor identities are satisfied in the leading order. Imposing a proper upper limit on the emitted gluon energy, we obtain the scattering cross sections of charm quark as well as the transport coefficients (momentum drag and diffusion) in the QGP with and without gluon emission.

Experiment/Theory

Theory/Phenomenology

Affiliation

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Sitzung Einordnung: Parallel: Heavy Flavours & Quarkonia

Track Klassifizierung: Heavy flavor and quarkonia