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Pre-equilibrium Photon and Dilepton Production

Wednesday 6 September 2023 14:40 (20 minutes)

We use QCD kinetic theory to compute photon and dilepton production in the chemically equilibrating out-of-equilibrium Quark-Gluon Plasma created in the early stages of high-energy heavy-ion collisions. We compare the non-equilibrium rates to the production in a thermal QGP and extract the dependence of pre-equilibrium photon and dilepton production on the kinetic and chemical equilibration time. By including realistic photon and dilepton production from the pre-equilibrium phase into state-of-the art calculations of the production during the later stages, we establish the significance of the pre-equilibrium phase for the production of electromagnetic probes in heavy-ion collisions.

Category

Theory

Collaboration (if applicable)

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