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Quark-gluon plasma and the charm quark production in the quasiparticle approach

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We study the production of charm quarks in a hot QCD medium composed of the dynamical quarks and gluons, dressed by the effective temperature-dependent masses. The temperature dependence is incorporated through the coupling deduced from the lattice QCD equation of state for $N_f=2+1$ [1]. For the time evolution of the QGP, we employ the hydrodynamic results [2] which involve the shear viscosity computed in the quasiparticle model [3].

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- [2] J.Auvinen, K. J. Eskola, P. Huovinen, H. Niemi, H.Paatelainen, Phys.Rev.C 102 (2020).
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