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

Sunday 25 September 2022 12:20 (20 minutes)

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].

[1] V. Mykhaylova, M. Bluhm, C. Sasaki, K. Redlich, Phys.Rev.D 100 (2019).

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

[3] V. Mykhaylova, C. Sasaki, Phys.Rev.D 103 (2022).

Presenter: Ms MYKHAYLOVA, Valeriya (University of Wrocław)

Session Classification: Theory