

# XVII Polish Workshop on Relativistic Heavy-Ion Collisions: Phase diagram and Equation of State of strongly interacting matter



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## Heavy Flavor Production in Hot QCD Matter

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We investigate the evolution of charm quarks in hot QCD matter employing the effective quasiparticle approach. In this framework, the QGP comprises the quasi-quarks and -gluons with the dynamically generated masses linked to the lattice QCD equation of state. Using the kinetic rate equation, we study the production of the  $(c\bar{c})$  pairs for two distinct scenarios of the QGP evolution: the longitudinal (1D) propagation of perfect fluid is juxtaposed to the (2+1)-dimensional expansion of the viscous medium.

Within the statistical errors, we find that the total number of charm quarks does not change through the entire 1D evolution of perfect QGP. This observation agrees with the predictions of the Statistical Hadronization Model. In viscous QGP expanding in 2+1 dimensions, the number of charm quarks slightly decreases towards  $T_c$ , indicating the influence of the dissipative phenomena.

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