

XIV Polish Workshop on Relativistic Heavy-Ion Collisions: Interplay between soft and hard probes of heavy-ion collisions



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Quark Flavor Dependence of the Shear Viscosity in a Quasiparticle Model

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It is known that the quark-gluon plasma is well described in terms of the perfect fluid dynamics. However, for a more realistic investigation, the dissipative processes quantified by the transport parameters need to be included in the hydrodynamic evolution of the QGP. We study the quark-flavor dependence of the shear viscosity calculated in the relaxation time approximation of the Boltzmann equation. Effective masses of the light and strange quarks, as well as gluons, are introduced within a quasiparticle approach. They carry a non-trivial temperature dependence which comes in via the QCD coupling extracted from lattice simulations for pure Yang-Mills theory and for $N_f=2+1$ QCD.

Author: Ms MYKHAYLOVA, Valeriya (University of Wrocław)

Presenter: Ms MYKHAYLOVA, Valeriya (University of Wrocław)

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