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Quark susceptibilities in a generalized quasiparticle model

The QCD equation of state as predicted by lattice QCD calculations (lQCD) is well reproduced in terms of effective quasiparticle models. These models so far fail to describe the susceptibilties and underestimate the pressure
at finite densities. We present a generalised quasiparticle model where the partonic propagators explicitly depend on the three-momentum with respect to the medium. Within this extended model we reproduce simultaneously the
equation of state and the susceptibilties as provided by lQCD. We calculate the shear and bulk viscosity as well as the electric conductivity and compared them to default quasiparticle models. We find a good agreement between
our model and available lattice data for all transport coefficients.

Preferred Track

QCD at High Temperature

Collaboration

Not applicable

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