

Strangeness in Quark Matter 2019



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Transport coefficients of the hot and dense matter

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Transport properties of the quark-gluon plasma in a hot and dense QCD medium have been studied. We have calculated transport coefficients for massive interacting quasi-particles with non-zero widths described by the Dynamical Quasi-Particle Model(DQPM). The DQPM enable to calculate the quark and gluon collisional interaction rates using the cross-sections. The shear and bulk viscosities have been calculated using the collisional interaction rates as an inverse relaxation time on the base of the relaxation time approximation(RTA) for a range T and μ_B . The obtained viscosities are in good agreement with the lattice results at $\mu_B = 0$. The shear viscosity has been also calculated using the DQPM spectral widths and masses according to the Green-Kubo method. In case of the shear viscosity the lattice results within the error bars lie in the corridor between this two values.

Collaboration name

Track

Others

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