

# Strangeness in Quark Matter 2019



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## Relativistic Dissipative Hydrodynamics: Quasiparticle Description

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Relativistic Hydrodynamics has been very successful in describing the space-time evolution of hot and dense QCD matter created in high energy heavy ion collisions. We employ quasiparticle kinetic models to derive a causal theory of relativistic hydrodynamics which can incorporate any equation of state in a thermodynamically consistent framework. To this end, the phase space distribution function is modified either by introducing a temperature dependent mass or an effective fugacity. The effective mass model assumes an extra temperature dependent bag parameter which helps in restoring thermodynamic consistency. The effective fugacity model introduces a temperature dependent fugacity which shows promising results in the high temperature regime. We derive hydrodynamic transport coefficients and study the space-time evolution of QCD matter for purely longitudinal Bjorken expansion.

### Collaboration name

### Track

Hydrodynamics, chirality and vorticity

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