

Dynamics of strongly interacting parton-hadron matter

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We study the the non-equilibrium dynamics of heavy-ion collisions from SIS to LHC energies within the Parton-Hadron-String Dynamics (PHSD) transport approach, which incorporates explicit partonic degrees of freedom in terms of strongly interacting quasiparticles (quarks and gluons) in line with an equation of state from lattice QCD as well as the dynamical hadronization and hadronic collision dynamics in the final reaction phase.

We investigate also the equilibrium properties of strongly-interacting infinite parton-hadron matter: the equilibration of different observables on light and strange sector and their fluctuations and also transport coefficients, such as shear and bulk viscosity, electric and heat conductivity are presented.

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