

Dynamics of strongly interacting parton-hadron matter

Wednesday, 3 December 2014 12:00 (45 minutes)

We study 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 the equilibrium properties of strongly-interacting infinite parton-hadron matter in terms of transport coefficients, such as shear and bulk viscosity, electric and heat conductivity at finite temperature and quark chemical potential.

Furthermore, the ‘highlights’ of the latest results on electromagnetic probes (photons and dileptons), heavy quarks and ‘bulk’ collective flow observables from heavy-ion collisions will be presented.

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Session Classification: Plenary Session