

Hauptvortrag PV XXI Fr 9:30 RW 1
Hybrid Transport Models — ●HANNAH PETERSEN — Duke University, Durham, North Carolina, USA

In this talk, I will review the success of hybrid approaches based on microscopic transport and hydrodynamics to describe the dynamical evolution of relativistic heavy ion collisions. The equation of state is an explicit input in fluid dynamic calculations and therefore hydrodynamics provides a framework that allows the treatment of the phase transition to the quark gluon plasma. In microscopic transport approaches

the non-equilibrium evolution of the whole phase-space distribution is taken into account. I will discuss, how a combination of the advantages of both approaches can be used to get a more consistent picture of the dynamics of heavy ion reactions. I will present selected results over the whole energy range from RHIC and LHC to future FAIR energies to illuminate the potential of hybrid approaches and outline future challenges. Specifically, I am going to concentrate on the importance of event-by-event descriptions to understand initial state fluctuations in relativistic heavy ion collisions.