Quark non-equilibrium molecular dynamics and particle production from SPS to RHIC energies

Stefan Scherer a Marcus Bleicher a Markus Hofmann a
Ludwig Neise a Horst Stoecker a Walter Greiner a

a Institut fuer Theoretische Physik, J.W. Goethe Universitaet, D-60054 Frankfurt am Main, Germany

Presented by: Stefan Scherer

Abstract

The quark-molecular-dynamics model describes quarks as classical point particles carrying a color charge and interacting via a linear increasing, confining potential. The time evolution of such a system of quarks yields colorless clusters which can be identified as hadrons. The model is applied to study the dynamics of relativistic heavy ion collisions collisions from CERN-SPS to RHIC energies. The non-equilibrium dynamics of hadronization and the loss of correlation among quarks is studied as a function of the collision energy.