

G-CSC Kolloquium

Lattice QCD at finite temperature and density

Owe Philipsen, Physik, Goethe-Universität Frankfurt

Abstract

Lattice gauge theories are discretised versions of Quantum Field Theories in the continuum. In particular, Quantum Chromodynamics is the theory of the strong interactions, and thus the nuclear forces, which defies the traditional weak coupling expansion methods. A first principle treatment is possible via simulations of the discretised theory. I give an introduction into thermodynamical calculations and in particular studies of the QCD phase diagram.