Status report: Chapter of CBM book

Properties of strongly interacting matter

Stefan Leupold

- Equation of State and Phase Boundaries of Strongly Interacting Matter
- Physics of Strongly Interacting Medium Near Deconfinement
  – Model Description

CBM workshop, ECT*, Trento, Italy, May 2006

Equation of State and Phase Boundaries of Strongly Interacting Matter

- Phases of QCD – thermodynamics, symmetry and universality arguments (*M. Stephanov*)
- Chiral symmetry at finite temperature and density (*S. Leupold*)
- Equation of state – perturbative approach (*K. Rummukainen*)
- Equation of state from Lattice Gauge Theory (*F. Karsch*)
- Lattice constraints on the position of the critical curve and the critical point (*Z. Fodor*)
- Color superconductive phases of QCD matter (*D. Rischke*)
- The nuclear equation of state from many-body theory (*C. Fuchs*)

Physics of Strongly Interacting Medium Near Deconfi nement – Model Description

- Physics of strongly coupled quark gluon plasma (*E. Shuryak*)
- Quark gluon-plasma as a quasi-particle medium (*B. Kämpfer and M. Bluhm*)
- Hadronic Resonances - important degrees of freedom below deconfinement (*S. Ejiri, F. Karsch and K. Redlich*)
- Wilson Line as relevant dynamical field near deconfinement (*A. Dumitru*)
- The QCD phase diagram in the PNJL model (*W. Weise and C. Rati*)
- From critical to freezeout conditions in QCD matter (*K. Redlich*)
- QCD equation of state of cold QGP and its implications (*D. Blaschke*)
- The Renormalization Group method and the critical structure of QCD medium (*B.-J. Schaefer, J. Wambach*)
- Transport coefficients (*L. Csernai?*)