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; 6.5 Vector meson spectral function and thermal dilepton rates
; 6.6 Heavy quark spectral functions and charmonium suppression
; 7 Summary ; References ; Appendix A
Thermodynamics of the High-Temperature Quark-Gluon Plasma
1 Introduction ; 2 The Scalar Field Theory as a Pedagogical Example ; 2.1 Perturbation theory and its difficulties ; 2.2 Order g3 from various resummation schemes ; 2.3 Self-consistent resummation ; 3 Quark-Gluon Plasma
3.1 Perturbative results 3.2 Lattice results
; 3.3 Dimensional reduction ; 4 Thermodynamics of HTL Quasiparticles in QCD ; 4.1 HTL-screened perturbation theory ; 4.2 2PI formalism in gauge theories ; 4.3 Approximately self-consistent entropy and quark density
; 4.4 Pressure
4.5 Quark number susceptibilities

Sommario/riassunto

This is a review monograph on quark-gluon plasma (QGP). Different theoretical and experimental aspects of the program to produce QGP in relativistic heavy-ion collisions are covered by experts in the field. This is the third volume in a series on the subject, and the first such monograph to focus on the implications of the experimental results from RHIC, the relativistic heavy-ion collider at the National Brookhaven Laboratory. The review articles will be useful to experienced researchers as well as to graduate students entering the field.

Contents: Thermodynamics and In-Me