

1. Record Nr.	UNINA9910784403703321
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Titolo	Equilibrium and non-equilibrium statistical thermodynamics // Michel Le Bellac, Fabrice Mortessagne, and G. George Batrouni [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2004
ISBN	1-107-14564-3 0-511-64817-0 0-511-19370-X 0-511-56214-4 0-511-60657-5 0-511-19444-7
Descrizione fisica	1 online resource (xvi, 616 pages) : digital, PDF file(s)
Disciplina	536/.7
Soggetti	Thermodynamic equilibrium Irreversible processes Statistical thermodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references (p. 605-610) and index.
Nota di contenuto	Cover; Half-title; Title; Copyright; Contents; Preface; 1 Thermostatistics; 2 Statistical entropy and Boltzmann distribution; 3 Canonical and grand canonical ensembles: applications; 4 Critical phenomena; 5 Quantum statistics; 6 Irreversible processes: macroscopic theory; 7 Numerical simulations; 8 Irreversible processes: kinetic theory; 9 Topics in non-equilibrium statistical mechanics; Appendix; References; Index
Sommario/riassunto	This graduate-level text gives a self-contained exposition of fundamental topics in equilibrium and nonequilibrium statistical thermodynamics. The text follows a balanced approach between the macroscopic (thermodynamic) and microscopic (statistical) points of view. The first half of the book deals with equilibrium thermodynamics and statistical mechanics. In addition to standard subjects, the reader will find a detailed account of broken symmetries, critical phenomena and the renormalization group, as well as an introduction to numerical methods. The second half of the book is devoted to nonequilibrium

phenomena, first following a macroscopic approach, with hydrodynamics as an important example. Kinetic theory receives a thorough treatment through analysis of the Boltzmann-Lorentz model and the Boltzmann equation. The book concludes with general nonequilibrium methods such as linear response, projection method and the Langevin and Fokker-Planck equations, including numerical simulations. This advanced textbook will be of interest to graduate students and researchers in physics.

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