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Titolo	Statistical Theory of Heat / / by Florian Scheck
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ISBN	3-319-40049-5
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (IX, 233 p. 46 illus.)
Collana	Graduate Texts in Physics, , 1868-4513
Disciplina	536.7
Soggetti	Thermodynamics Statistical physics Dynamical systems Phase transitions (Statistical physics) Quantum physics Complex Systems Phase Transitions and Multiphase Systems Quantum Physics Statistical Physics and Dynamical Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Basic Notions of the Theory of Heat -- Thermodynamics: Classical Framework -- Geometric Aspects of Thermodynamics -- Probabilities, States, Statistics -- Mixed Phases, Phase Transitions, Stability of Matter -- Exercises, Hints and Selected Solutions.
Sommario/riassunto	Scheck’s textbook starts with a concise introduction to classical thermodynamics, including geometrical aspects. Then a short introduction to probabilities and statistics lays the basis for the statistical interpretation of thermodynamics. Phase transitions, discrete models and the stability of matter are explained in great detail. Thermodynamics has a special role in theoretical physics. Due to the general approach of thermodynamics the field has a bridging function between several areas like the theory of condensed matter, elementary particle physics, astrophysics and cosmology. The classical thermodynamics describes predominantly averaged properties of

matter, reaching from few particle systems and state of matter to stellar objects. Statistical Thermodynamics covers the same fields, but explores them in greater depth and unifies classical statistical mechanics with quantum theory of multiple particle systems. The content is presented as two tracks: the fast track for master students, providing the essentials, and the intensive track for all wanting to get in depth knowledge of the field. Clearly labelled material and sections guide students through the preferred level of treatment. Numerous problems and worked examples will provide successful access to Statistical Physics and Thermodynamics.