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Edizione	[Second edition.]
Descrizione fisica	1 online resource (XXVI, 658 p. 55 illus., 1 illus. in color.)
Collana	Graduate Texts in Physics
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Soggetti	Statistical thermodynamics Thermodynamics
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Nota di contenuto	Introduction and Zeroth Law -- Perfect Gas -- The First Law -- The Second Law -- First and Second Laws Combined -- Van der Waals Theory: Imperfect Gases -- Internal Energy and Enthalpy -- Fundamental Equation -- Thermodynamic Potentials -- Statistical Thermodynamics:Third Law -- The Cooper Pair -- The Bogoliubov Transformation -- Superconductivity.
Sommario/riassunto	This textbook provides comprehensive information on general and statistical thermodynamics. It begins with an introductory statistical mechanics course, deriving all the important formulae meticulously and explicitly, without mathematical shortcuts. In turn, the main part of the book focuses on in-depth discussions of the concepts and laws of thermodynamics, van der Waals, Kelvin and Claudius theories, ideal and real gases, thermodynamic potentials, phonons and all related aspects. To elucidate the concepts introduced and to provide practical problem-solving support, numerous carefully worked-out examples are included. The text is clearly written and punctuated with a number of interesting anecdotes. The book also provides alternative solutions to problems and second equivalent explanations of important physical concepts. This second edition has been expanded to cover the foundations of superconductivity with new chapters on Cooper pairs, the Bogoliubov transformation, and superconductivity. It is suitable as a main thermodynamics textbook for upper-undergraduate students and

provides extensive coverage, allowing instructors to ‘pick and choose’ the elements that best match their class profile. .