DESCRIPTION

This textbook brings together the fundamentals of the macroscopic and microscopic aspects of thermal physics by presenting
thermodynamics and statistical mechanics as complementary theories based on small numbers of postulates. The book is designed to
give the instructor flexibility in structuring courses for advanced undergraduates and/or beginning graduate students and is written on
the principle that a good text should also be a good reference.

The presentation of thermodynamics follows the logic of Clausius and Kelvin while relating the concepts involved to familiar
phenomena and the modern student's knowledge of the atomic nature of matter. Another unique aspect of the book is the treatment
of the mathematics involved. The essential mathematical concepts are briefly reviewed before using them, and the similarity of the
mathematics to that employed in other fields of physics is emphasized.

The text gives in depth treatments of low density gases, harmonic solids, magnetic and dielectric materials, phase transitions, and the
concept of entropy. The microcanonical, canonical, and grand canonical ensembles of statistical mechanics are derived and used as
the starting point for the analysis of fluctuations, blackbody radiation, the Maxwell distribution, Fermi-Dirac statistics, Bose-Einstein
condensation, and the statistical basis of computer simulations.

Supplementary material including PowerPoint slides and detailed worked solutions can be downloaded online at http://
booksupport.wiley.com
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