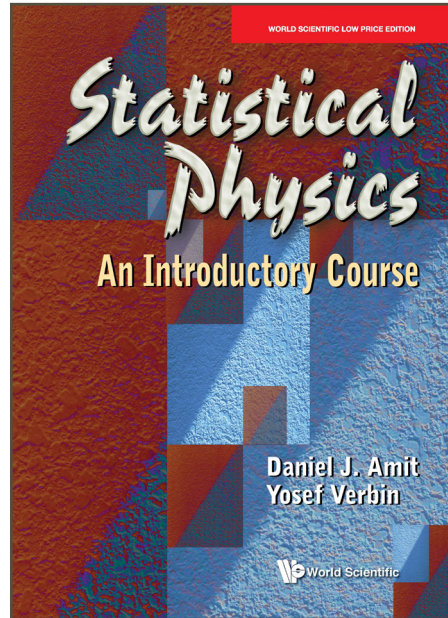


STATISTICAL PHYSICS

An Introductory Course

By
Daniel J Amit (*Universita di Roma "La Sapienza" & The Hebrew University*)
and Yosef Verbin (*The Open University of Israel*)



ISBN 9781944659974
Extent: 580pp, PB
Pub Date: 2022
Price: Rs. 1895

ABOUT THE BOOK

This invaluable textbook is an introduction to statistical physics that has been written primarily for self-study. It provides a comprehensive approach to the main ideas of statistical physics at the level of an introductory course, starting from the kinetic theory of gases and proceeding all the way to Bose–Einstein and Fermi–Dirac statistics. Each idea is brought out with ample motivation and clear, step-by-step, deductive exposition. The key points and methods are presented and discussed on the basis of concrete representative systems, such as the paramagnet, Einstein’s solid, the diatomic gas, black body radiation, electric conductivity in metals and superfluidity.

The book is written in a stimulating style and is accompanied by a large number of exercises appropriately placed within the text and by self-assessment problems at the end of each chapter. Detailed solutions of all the exercises are provided.

READERSHIP

Undergraduate and graduate students in physics and engineering.

Feel Books Pvt. Ltd.
4381/4 Ansari Road
Daryaganj
New Delhi 110002
Tel: +91 11 47472600

CONTENTS

- *The Kinetic Theory of Gases:*
 - Velocity and Position Distributions of Molecules in a Gas
 - Brownian Motion
 - Transport Coefficients
- *Statistical Physics of a Paramagnets:*
 - Essential Background in Thermodynamics
 - Thermodynamics with Magnetic Variables
 - Microscopic States and Averages
 - Isolated Paramagnet — Microcanonical Ensemble
 - Isolated Paramagnet — Subsystems and Temperature
 - Paramagnet at a Given Temperature
 - Order, Disorder and Entropy
 - Comparison with Experiment
- *Statistical Physics and Thermodynamics:*
 - The Canonical Ensemble and Thermodynamics
 - Harmonic Oscillator and Einstein Solid
 - Statistical Mechanics of Classical Systems
 - Statistical Mechanics of an Ideal Gas
 - The Gibbs Paradox and the Third Law
 - Fluctuations and Thermodynamic Quantities
- *From Ideal Gas to Photon Gas:*
 - An Ideal Gas of Molecules with Internal Degrees of Freedom
 - Gases in Chemical Reactions
 - Phonon Gas and the Debye Model
 - Thermodynamics of Electromagnetic Radiation
- *Of Fermions and Bosons:*
 - Grand Canonical Ensemble
 - Statistical Mechanics of Identical Quantum Particles
 - Electrical Conductivity in Metals
 - Boson Gas

For orders or enquiries, please contact us:



Feel Books Pvt. Ltd.

Delhi Tel: +91 11 47472600, +91 9015043442, Email: orders@feelbooks.in

Bengaluru Tel: +91 80 26762129, Email: bangalore@feelbooks.in

Mumbai Mobile: +91 9820284211, Email: apandey@feelbooks.in

Chennai Mobile: +91 9003047502, Email: gsvrinivasan@feelbooks.in

Kolkata Mobile: +91 9836160013, Email: dbhattacharjee@feelbooks.in

www.feelbooks.in

For any queries, please email us at marketing@feelbooks.in