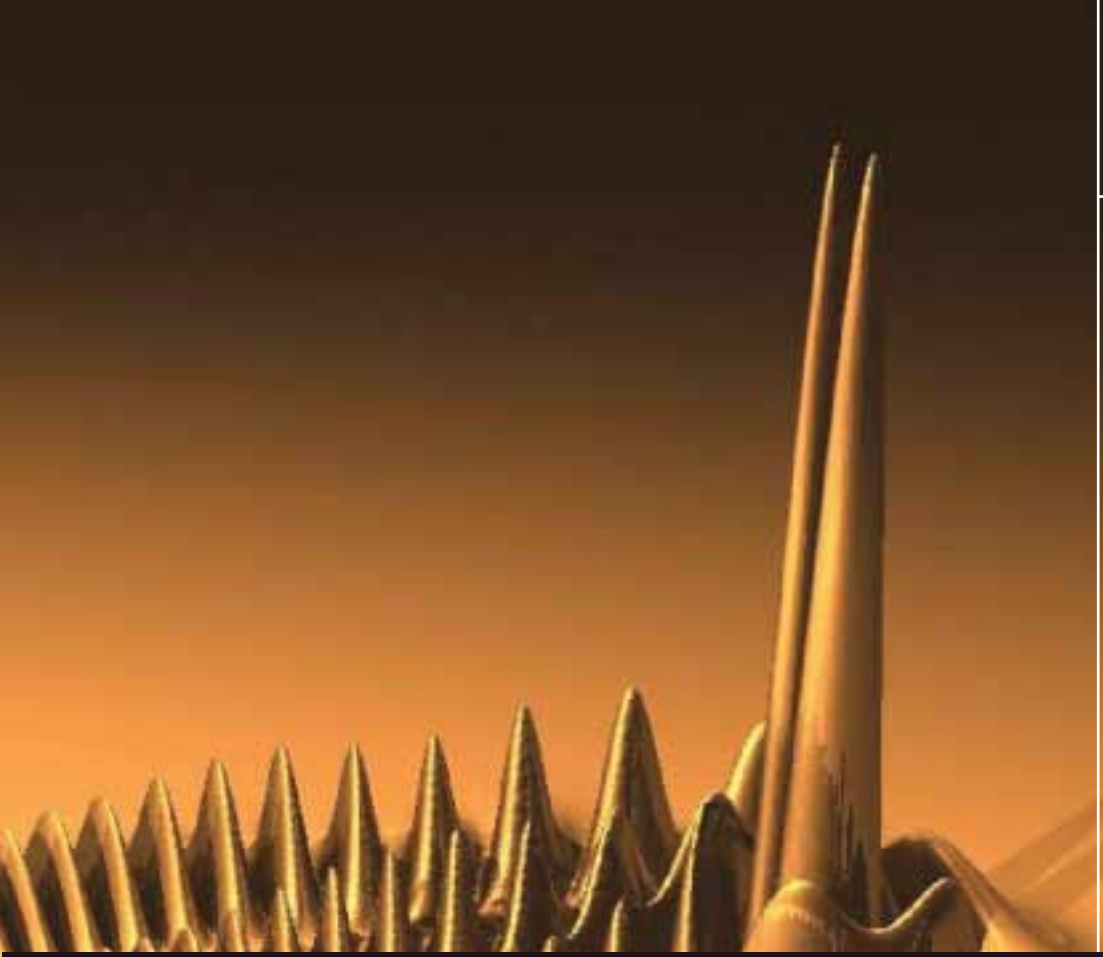

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Solar, Terrestrial and Atmospheric Physics

History and Philosophy of Physics

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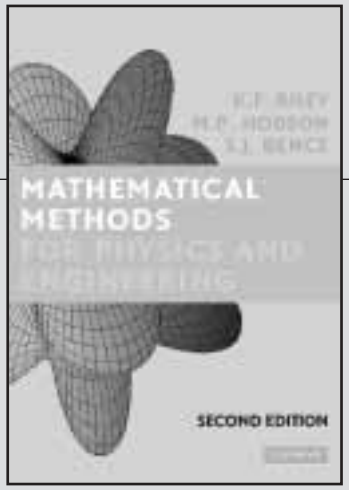

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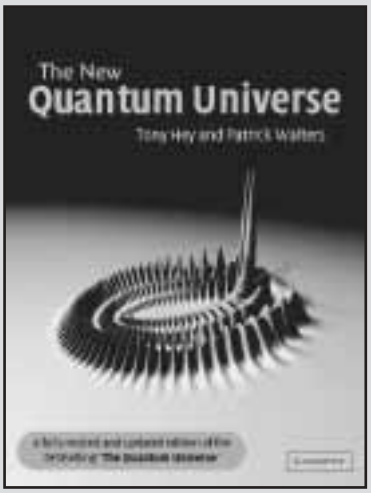

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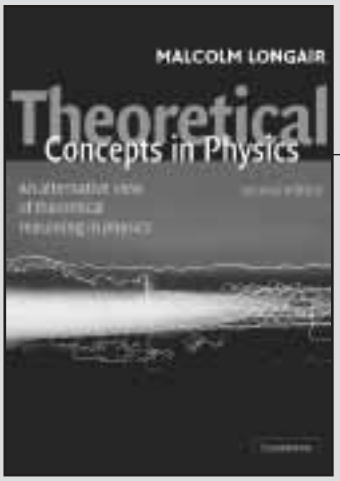

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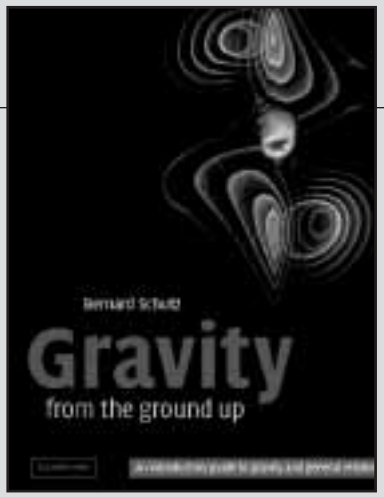

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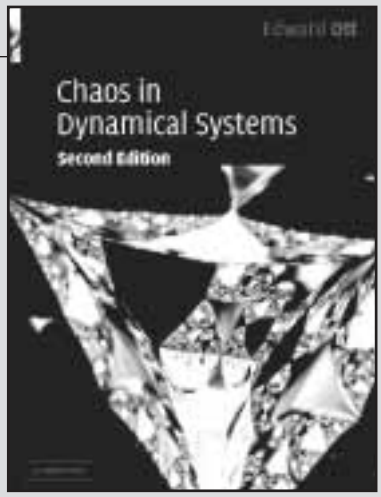

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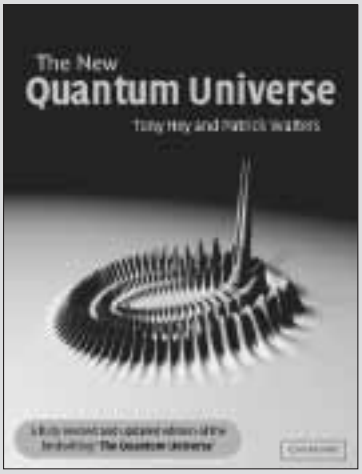
General Physics

Forthcoming
New Edition

The New Quantum Universe

Second edition

Anthony Hey
University of Southampton
and Patrick Walters
University of Wales, Swansea



Following the success of *The Quantum Universe*, first published in 1987, a host of exciting new discoveries have been made in the field of quantum mechanics. *The New Quantum Universe* provides an up-to-date and accessible introduction to the essential ideas of quantum physics, and demonstrates how it affects our everyday life. Quantum mechanics gives an understanding of not only atoms and nuclei, but also all the elements and even the stars. The book explains quantum paradoxes and the eventful life of Schroedinger's Cat, along with the Einstein–Podolsky–Rosen paradox and Bell's Inequality. It then looks ahead to the nanotechnology revolution, describing quantum cryptography, quantum computing and quantum teleportation, and ends with an account of quantum mechanics and science fiction. Using simple non-mathematical language, this book is suitable for final-year school students, science undergraduates, and anyone wishing to appreciate how physics allows the new technologies that are changing our lives.

• A popular account of the fundamentals of quantum mechanics together with an up-to-date survey of its applications, from the authors of *Einstein's Mirror*

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Richard P. Feynman

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P. C. W. Davies

'… a pleasure to both the mind and eye.'
Science

Contents: Preface; 1. Waves versus particles; 2. Heisenberg and uncertainty; 3. Schroedinger and matter waves; 4. Atoms and nuclei; 5. Quantum tunnelling; 6. Pauli and the elements; 7. Quantum co-operation and superfluids; 8. Quantum jumps; 9. Quantum engineering; 10. Death of a star; 11. Feynman rules; 12. Weak photons and strong glue; 13. Afterword -quantum physics and science fiction; Epilogue; Appendices.

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The Discovery of Subatomic Particles

Revised edition

Steven Weinberg
University of Texas, Austin

In this absorbing commentary on the discovery of the atom's constituents, Steven Weinberg accomplishes a brilliant fusion of history and science. This is in effect two books, cleverly interwoven. One is an account of a sequence of key events in the physics of the twentieth century, events that led to the discoveries of the electron, proton and neutron. The other is an introduction to those fundamentals of classical physics that played crucial roles in these discoveries. Physical concepts are introduced where needed to understand the historical story, and each new concept builds on physics already explained. Throughout the book, connections are shown between the historic discoveries of subatomic particles and work today at the frontiers of physics. A final chapter describes the discoveries of new elementary particles up to the present day.

• Fascinating story of the discovery of the atom's constituents, told by Nobel prize-winning physicist

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• Fully revised, this edition shows the connections between the historic discoveries of subatomic particles and work today at the frontiers of physics

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The Boston Globe

'One cannot fail to be touched by it.'
New Scientist

'It is a happy fact that some of the greatest scientists have been skilled expositors of their subject for nonscientific audiences. Einstein, Eddington, and Feynman come to mind. Steven Weinberg, a Nobel Laureate and brilliantly contemporary theorist, belongs in this company … It is ideally suited to inspire a next generation of physicists.'
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Peter Atkins

University of Oxford

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- Fully interactive accompanying website

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New Scientist

'We need to be reminded that matter, ordinary matter, is mysterious and magical … In Atkins' delightful book, the Cinderella of chemistry begins to look a lot like a beautiful princess.'

The Boston Globe

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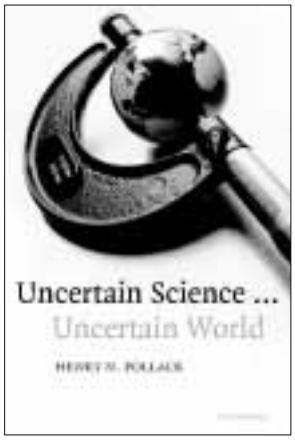
Publication September 2003

Uncertain Science… Uncertain World

Henry N. Pollack

University of Michigan, Ann Arbor



Is the world warming due to the Greenhouse Effect?

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'… an excellent inside look at how science works and flourishes even though it is immersed in uncertainty… It's my hope that this very clearly written book, devoid of both polemics and equations, will be widely read by the general public and policy-makers.'

Paul Crutzen, Winner of the 1995 Nobel Prize for Chemistry for work on the Ozone hole

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Choosing Science as a Career

Nancy Rothwell

University of Manchester

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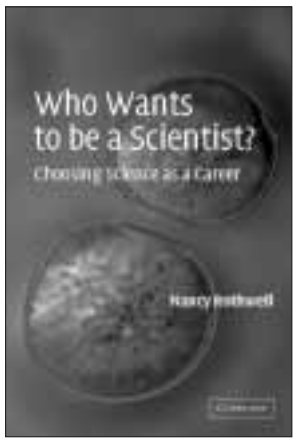

Scientific research is about discovering new things and applying them to improvements in life style for people and animals. But careers in science are now very demanding, requiring much more than a keen scientific mind and practical ability. If you are considering a career in research, have already embarked on your career and want to succeed, are uncertain which route to take, or advise, train or supervise scientists, this book should offer some helpful advice. It covers topics ranging from choosing a PhD or postdoctoral position, successful interviews and preparing your cv to managing your supervisor; how to give successful talks, publish high quality papers and get yourself known; and broad aspects of science which are so important today, including ethics and fraud, intellectual property and exploitation and disseminating science to the public.

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David Boal
Simon Fraser University, British Columbia

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Ian Jones, *Chemistry in Britain*

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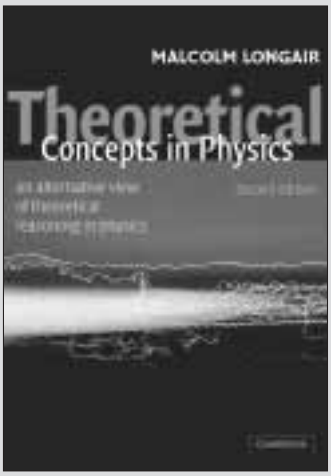
An Alternative View of Theoretical Reasoning in Physics
Second edition

Malcolm Longair
University of Cambridge



A highly original, and truly novel, approach to theoretical reasoning in physics. Lively and accessible, it is intended as a supplement to the final years of an undergraduate physics course. The first edition has been enjoyed by many generations of students; this new edition extends and deepens all the topics.

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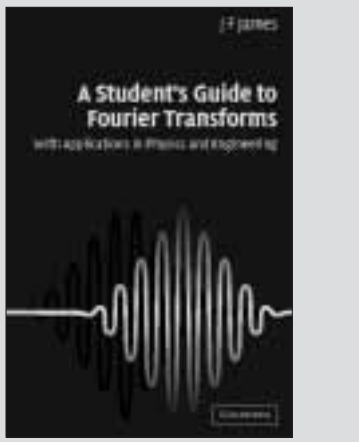

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Textbook

Fourier and Laplace Transforms

R. J. Beerends
Defense Intelligence and Security Service, Amsterdam
H. G. ter Morsche
Technische Universiteit Eindhoven, Holland
J. C. van den Berg
Agricultural University, Wageningen, The Netherlands
and E. M. van de Vrie

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Graduate Textbook

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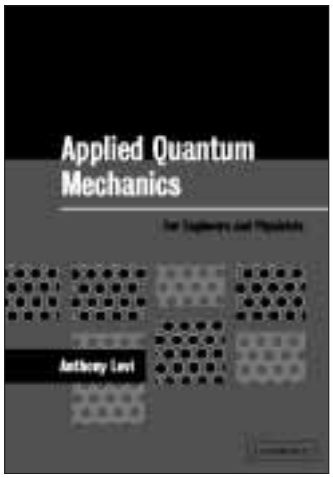
For Engineers and Physicists
Anthony Levi
University of Southern California



Written specifically for electronic and mechanical engineers and students, this book takes quantum mechanics out of the theory books and into the real world, using practical engineering examples throughout. Levi's unique approach engages the reader and keeps them motivated with numerous illustrations, exercises and worked solutions. Includes MATLAB examples on CD-ROM.

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Steven R. Finch
MathSoft Inc.

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Encyclopedia of Mathematics and its Applications, 94

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New Edition

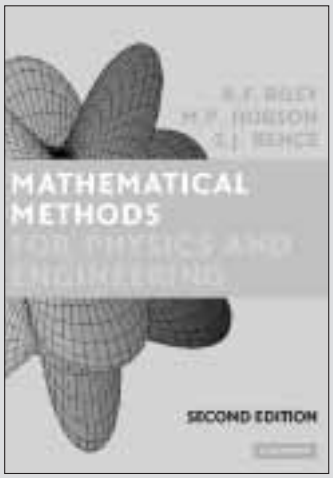
Textbook

Mathematical Methods for Physics and Engineering

A Comprehensive Guide

Second edition

K. F. Riley
University of Cambridge
M. P. Hobson
University of Cambridge
and S. J. Bence



The new edition of this highly acclaimed textbook contains several major additions, including more than four hundred new exercises (with hints and answers). The authors have included a preliminary chapter covering areas such as polynomial equations, trigonometric identities, and coordinate geometry, as well as two separate chapters for statistics and probability.

From reviews of the first edition:

'… the book provides scientists who need to use the tool of mathematics for practical purposes with a single, comprehensive book. I recommend this book not only to students in physics and engineering sciences, but also to students in other fields of natural sciences.'

P. Steward, *Optik*

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Second edition

Jenny Olive

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From reviews of the first edition:

'… a friendly book written in an engaging style … it will be valued particularly by those who need to make up a deficiency in a specific topic or to remove the rust from their mathematics … working through a few sections from Olive may be the prescription to cure the problem in many cases.'

Nigel Steele, *The Times Higher Education Supplement*

Contents: 1. Basic algebra: some reminders of how it works; 2. Graphs and equations; 3. Relations and functions; 4. Some trigonometry and geometry of triangles and circles; 5. Extending trigonometry to angles of any size; 6. Sequences and series; 7. Binomial series and proof by induction; 8. Differentiation; 9. Integration; 10. Complex numbers; 11. Working with vectors.

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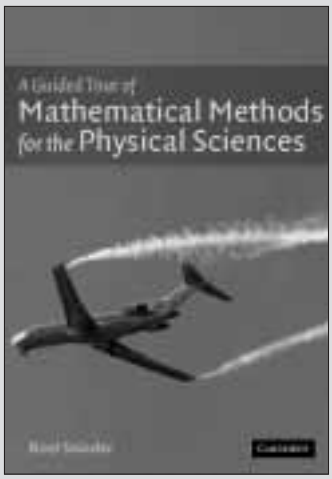
Textbook

A Guided Tour of Mathematical Methods

For the Physical Sciences

Roel Snieder
Colorado School of Mines



In this book mathematics for university students is presented in an integrated fashion with its applications in the physical sciences. In this way the mathematical insights acquired are driven by physical insight. The material is presented as a set of problems, many of which are playful and applied in character.

'… a splendid book, quite a delight to see mathematical models from a different perspective … treatment is so smooth that it is hard to know at any instant whether one is learning new tools or assimilating the applications to interesting examples … excellent.'

Donald de Cogan, *International Journal of Numerical Modelling*

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Graduate Textbook

Advanced Mathematical Methods with Maple

Derek Richards
The Open University

This is the ideal companion text for mathematicians and physical scientists using mathematical software packages such as Maple. It provides a user-friendly introduction to computer-assisted algebra and demonstrates the use of this technology for deriving approximate solutions to integrals and differential equations. Over 1000 exercises are incorporated with Internet solutions.

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Textbook

Differential Equations

Linear, Nonlinear, Ordinary, Partial

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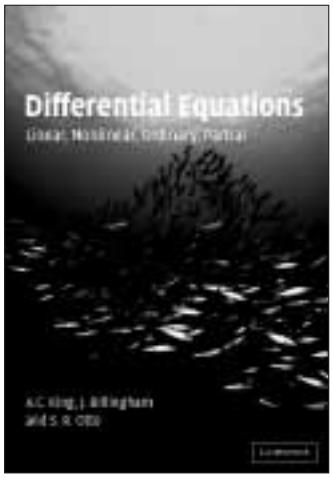

The authors focus on constructing solutions analytically, and interpreting their meaning; MATLAB is used extensively to illustrate the material. The many worked examples, based on interesting real world problems, the large selection of exercises, including several lengthier projects, the broad coverage, and clear and concise presentation will appeal to undergraduates.

Contents: Part I. Linear Equations; Part II. Nonlinear Equations and Advanced Techniques.

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Journal

Probability in the Engineering and Informational Sciences

Editor: Sheldon M. Ross
University of California, Berkeley

This journal focuses on stochastic modelling in the physical and engineering sciences, with particular emphasis on queueing theory, reliability theory, inventory theory, simulation, stochastic control theory and probabilistic networks and graphs. Papers on analytic properties and related disciplines are also considered, as well as more general papers on applied and computational probability, if appropriate. Readers include academics working in statistics, operations research, computer science, engineering, management science and physical sciences as well as industrial practitioners engaged in telecommunications, computer science, engineering, operations research and management science.

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Electronic ISSN 1469-8951

Theoretical and Mathematical Physics

Forthcoming

The Future of Theoretical Physics and Cosmology

Celebrating Stephen Hawking's 60th Birthday

Edited by Gary Gibbons
University of Cambridge
Stuart Rankin
University of Cambridge
and Paul Shellard
University of Cambridge

Based on lectures given in honour of Stephen Hawking's 60th birthday, this book comprises contributions from the world's leading theoretical physicists. It begins with a introductory section with popular-level lectures and then goes on to provide a critical evaluation of more advanced subjects in modern cosmology and theoretical physics research.

• Contributions from top researchers in cosmology and theoretical physics

• Fascinating overview of the current state of the field

• Covers the wide variety of subjects in which Stephen Hawking has been involved

Contents: 1. Preface; 2. Schedule of lectures; 3. Introductory overview; Part I. Symposium: 4. Our complex cosmos and its future; 5. Theories of everything and Hawking's wave function of the Universe; 6. The Problem of space-time singularities: implications for quantum gravity?; 7. Warping spacetime; 8. 60 years in a nutshell; Part II. Scientific Workshop: 9. Cosmological perturbations and singularities; 10. The quantum physics of chronology protection; 11. Energy dominance and the Hawking-Ellis vacuum conservation theorem; 12. Black hole uniqueness and the inner horizon stability problem; 13. Black holes in the real universe and their prospects as probes of relativistic gravity; 14. The quaet for gravitational waves from black holes; 15. Topology change in quantum gravity; 16. Primordial black holes; 17. Adventures in de Sitter space; 18. Black hole pair creation; 19. Zeta functions, anomalies and stable branes; 20. Black holes at accelerators; 21. Euclidean quantum gravity: the view from 2002; 22. Some reflections on the status of conventional quantum theory when applied to quantum gravity; 23. Quantum geometry and its ramifications; 24. Holography has its price, or, how does God play dice?; 25. playing with black strings; 26. Black holes and string theory; 27. de Sitter space in non-critical string theory; 28. The past and future of string theory; 29. String theory; 30. The story of M; 31. 57 varieties in a nutshell; 32. Gauged supergravity and holographic field theory; 33. Supergravity, M theory and cosmology; 34. String theory; 35. M theory and black hole quantum mechanics; 36. Twenty years of debate with Stephen; 37. The state of the universe; 38. Quantum cosmology; 39. Quantum cosmology and eternal inflation; 40. Probability in the deterministic theory known as quantum mechanics; 41. The interpretation of quantum cosmology and the problem of time; 42. What local supersymmetry can do for quantum cosmology; 43. Inflation and cosmological perturbations; 44. Braneworlds; 45. The future of cosmology: observational and computational prospects; 46. Before the big bang; 47. Inflationary theory versus the ekpyrotic/cyclic scenario 48. Higher derivative inflation and stochastic inflation; 49. On the instability of extra space dimensions; 50. Publications of S. W. Hawking.

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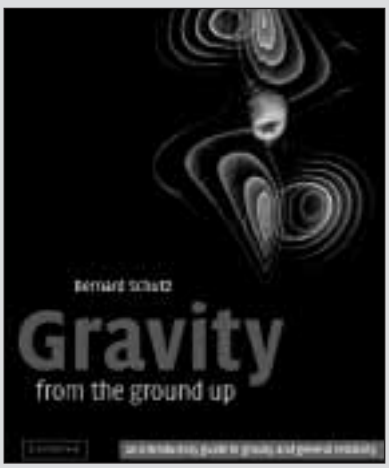
Forthcoming
Textbook

Gravity from the Ground Up

An Introductory Guide to Gravity and General Relativity

Bernard F. Schutz
Max Planck Institute for Gravitational Physics, Golm



This book provides an accessible introduction to astronomy and general relativity, aiming to explain the Universe, not just to describe it. Written by an expert in relativity who is known for his clearly-written advanced textbooks, the treatment uses only high-school level mathematics, supplemented by optional computer programs, to explain the laws of physics governing gravity, from Galileo and Newton to Einstein. It is suitable for use as a university textbook for introductory physics and astronomy courses. More casual readers can skip the mathematical sections and still follow the development.

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Textbook

An Introduction to Quantum Theory

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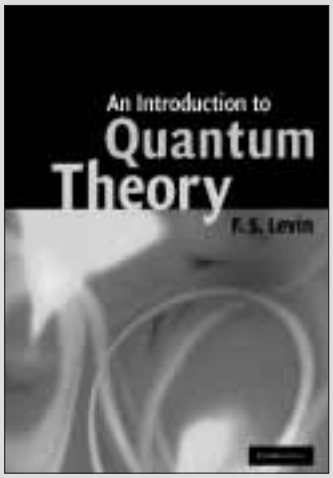

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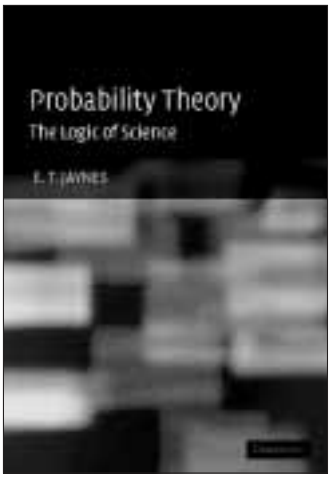

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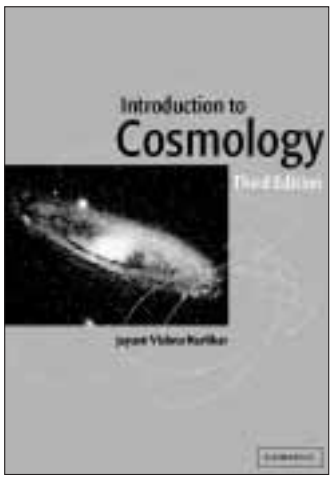

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The Gravitational Million-Body Problem

A Multidisciplinary Approach to Star Cluster Dynamics

Douglas Heggie
University of Edinburgh
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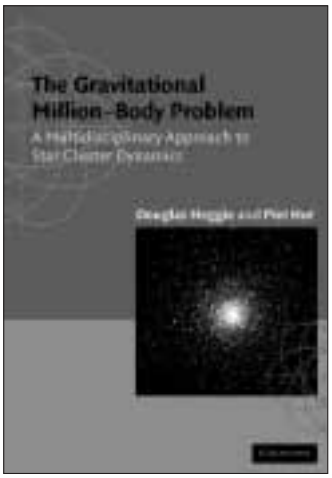

The gravitational million-body problem is a model for understanding the dynamics of rich star clusters. This book systematically develops the tools needed for studying million-body problems in nature, and introduces the most important theoretical models. Written for graduates and researchers in astrophysics and astronomy, theoretical physics, computational science, and mathematics.

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Plasma Physics

Graduate Textbook

The Physics of Plasmas

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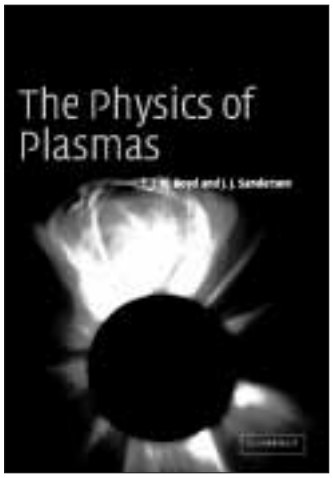

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Journal

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Forthcoming

Magnetohydrodynamic Turbulence

Dieter Biskamp
Max-Planck-Institut für Plasmaphysik, Garching, Germany

This book presents an introduction to, and state-of-the-art account of, magnetohydrodynamic (MHD) turbulence. Applications to three topics from astrophysics are considered: the solar wind, accretion disks, and the interstellar medium. Suitable for graduate students and researchers working in turbulence theory, plasma physics and astrophysics.

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Condensed Matter Physics and Statistical Physics

Graduate Textbook

Bose-Einstein Condensation in Dilute Gases

C. J. Pethick
Nordic Institute for Theoretical Astrophysics, Copenhagen
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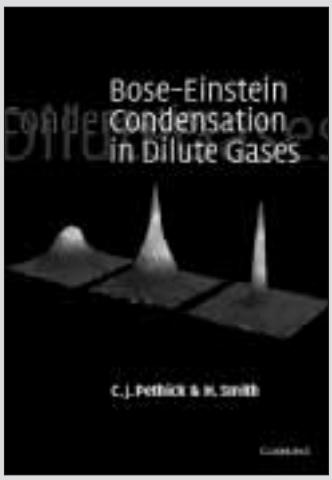
University of Copenhagen



Since the recent experimental discovery of Bose-Einstein condensation in dilute atomic gases, investigating such condensates has become one of the most active areas in contemporary physics. The study of Bose-Einstein condensates in dilute gases encompasses a number of different subfields of physics, including atomic, condensed matter, and nuclear physics. The authors of this graduate-level textbook explain this exciting new subject in terms of basic physical principles, without assuming detailed knowledge of any of these subfields. Problem sets are included in each chapter.

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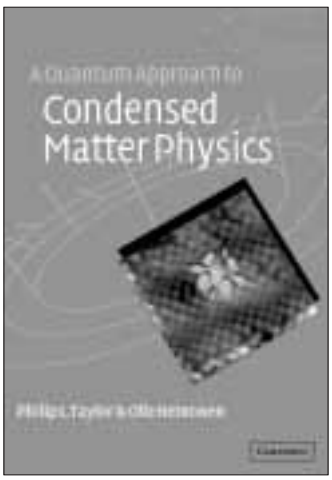
Textbook

A Quantum Approach to Condensed Matter Physics

Philip L. Taylor
Case Western Reserve University, Ohio
and Olle Heinonen
Seagate Technology, Bloomington



This text is an accessible introduction to the theory that underlies the many fascinating properties of solids. Assuming only an elementary knowledge of quantum mechanics, it describes the methods by which one can perform calculations and make predictions of some of the many complex phenomena that occur in solids and quantum liquids. This text, aimed at advanced undergraduates and beginning graduate students, leads the reader from the fundamental behaviour of electrons and atoms in solids to the most recently explored manifestations of the quantum nature of condensed matter.

Contents: 1. Semiclassical introduction; 2. Second quantization and the electron gas; 3. Boson systems; 4. One-electron theory; 5. Density functional theory; 6. Electron-phonon interactions; 7. Superconductivity; 8. Semiclassical theory of conductivity in metals; 9. Mesoscopic systems; 10. The quantum Hall effect; 11. Kondo effect and heavy fermions.

2002 247 x 174 mm 424pp 88 line diagrams

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Graduate Textbook

Atomic and Electronic Structure of Solids

Efthimios Kaxiras
Harvard University, Massachusetts

This text is a modern treatment of the theory of solids dealing with the physics of electron and phonon states in crystals and how they determine the structure and properties of solids. There is also an extensive treatment of defects in solids. A number of modern topics are also explored.

Contents: Part I. Crystalline Solids; Part II. Defects, Non-crystalline Solids and Finite Structures; Part III. Supplementary Material.

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Electronic Basis of the Strength of Materials

John Gilman
University of California, Los Angeles

This book is the first to relate the strength characteristics of constituent atoms to the electronic structures. The book begins with short reviews of classical and quantum mechanics followed by reviews of the three major branches of the strength of materials: elastic stiffnesses; plastic responses; and the nature of fracture.

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Publication March 2003

Graduate Textbook

Defects and Geometry in Condensed Matter Physics

David R. Nelson
Harvard University, Massachusetts

Graduate-level textbook discussing the crucial role played by defects and geometry in disrupting order in solids, superconductors, superfluids, liquid crystals and polymers.

Contents: 1. Fluctuations, renormalization and universality; 2. Defect mediated phase transitions; 3. Order, frustration; 4. The structure and statistical mechanics of glass; 5. The statistical mechanics of crumpled membranes; 6. Defects in superfluids, superconductors and membranes; 7. Vortex line fluctuations in superconductors from elementary quantum mechanics; 8. Correlations and transport in vortex liquids; 9. The statistical mechanics of directed polymers.

2002 247 x 174 mm 392pp 137 line diagrams 3 half-tones 2 tables

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Graduate Textbook

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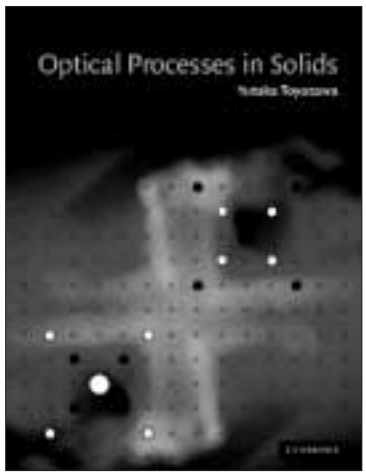
Yutaka Toyozawa
University of Tokyo



Light (electromagnetic radiation) is the most powerful tool for probing the quantum mechanical motions of electrons and nuclei within molecules and condensed matter. In this book the author describes the principles of such spectroscopic study with the help of illustrative comparison between theory and experimental studies.

Contents: Introduction; 1. Radiation field; 2. Quantum mechanics and the harmonic oscillator; 3. The interaction of radiation with matter; 4. Electronic versus nuclear motions and the optical spectra of localized electrons in solids; 5. Lattice vibrations; 6. Electric susceptibility and the dielectric constant; 7. One electron states in solids; 8. Excitons; 9. Polarons and the self-trapped state; 10. Optical spectra of excitons in the phonon field; 11. Higher order optical processes; 12. Inner shell excitation; 13. Photo-induced structural changes; 14. Light, matter, and life.

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Publication January 2003

Graduate Textbook

Electrodynamics of Solids

Optical Properties of Electrons in Matter

Martin Dressel
Universität Stuttgart
and George Grüner
University of California, Los Angeles

A graduate-level book about the propagation of electromagnetic fields and their interaction with condensed matter.

'Advanced undergraduate and graduate students, and researchers in the fields of condensed matter physics, materials science, and optical engineering will find this book of interest.'
Materials Today

Contents: Part I. Concepts and Properties; Part II. Methods; Part III. Experiments.

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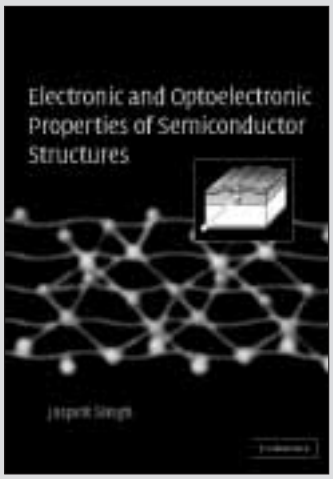
Graduate Textbook

Electronic and Optoelectronic Properties of Semiconductor Structures

Jasprit Singh
University of Michigan, Ann Arbor



This graduate textbook presents the underlying physics behind devices that drive today's technologies. Carefully chosen solved examples are utilized to convey important concepts. Over 250 figures and 200 homework exercises are included. Real-world applications are highlighted throughout the book, stressing the links between physical principles and actual devices.

Contents: Preface; Introduction; 1. Structural properties of semiconductors; 2. Semiconductor bandstructure; 3. Bandstructure modifications; 4. Transport: general formalism; 5. Defect and carrier-carrier scattering; 6. Lattice vibrations: phonon scattering; 7. Velocity-field relations in semiconductors; 8. Coherence, disorder, and mesoscopic systems; 9. Optical properties of semiconductors; 10. Excitonic effects and modulation of optical properties; 11. Semiconductors in magnetic fields; Appendices.

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199 exercises 255 figures
0 521 82379 X Hardback £37.50
January 2003

Low-Dimensional Semiconductor Structures

Fundamentals and Device Applications

Edited by Keith Barnham
Imperial College of Science, Technology and Medicine, London
and Dimitri Vvedensky
Imperial College of Science, Technology and Medicine, London

This book provides a seamless, atoms-to-devices introduction to the latest quantum heterostructures. It covers their fabrication, their electronic, optical, and transport properties, their role in exploring new physical phenomena, and their utilisation in devices.

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Light-Emitting Diodes

E. Fred Schubert
Rensselaer Polytechnic Institute, New York

This graduate textbook covers all aspects of the technology and physics of infrared, visible-spectrum, and white-light-emitting diodes (LEDs) made from III-V semiconductors. It reviews elementary properties of LEDs such as the electrical and optical characteristics.

Contents: 1. History of light-emitting diodes; 2. Radiative and non-radiative recombination; 3. Theory of radiative recombination; 4. LED basics: electrical properties; 5. LED basics: optical properties; 6. High internal efficiency LED designs; 7. High extraction efficiency structures; 8. Visible-spectrum LEDs; 9. Spontaneous emission from resonant cavities; 10. Resonant cavity light-emitting diodes; 11. Human vision; 12. White-light LEDs; 13. Optical communication; 14. Communication LEDs; 15. LED modulation characteristics; Appendix 1. List of frequently used symbols; Appendix 2. Physical constants; Appendix 3. Room temperature properties of semiconductors; Appendix 4. Periodic system of elements.

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Publication April 2003

Graduate Textbook

Fundamentals of Carrier Transport

Second edition

Mark Lundstrom
Purdue University, Indiana

Fundamentals of Carrier Transport is an accessible introduction to the behavior of charged carriers in semiconductors and semiconductor devices. It is written specifically for engineers and students without an extensive background in quantum mechanics and solid-state physics. This second edition contains a completely new chapter on transport in ultrasmall devices.

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6 tables 126 exercises
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Graduate Textbook

Magnetic Materials

Fundamentals and Device Applications

Nicola Spaldin
University of California, Santa Barbara

This book covers the fundamentals of magnetism and the basic theories and applications of conventional magnetic materials. It is highly illustrated and contains numerous homework problems together with worked solutions. Ideal for use on a one-semester course in magnetic materials.

Contents: 1. Review of basic magnetostatics; 2. Magnetization and magnetic materials; 3. Atomic origins of magnetism; 4. Diamagnetism; 5. Paramagnetism; 6. Interactions in ferromagnetic materials; 7. Ferromagnetic domains; 8. Antiferromagnetism; 9. Ferrimagnetism; 10. Anisotropy; 11. Magnetic data storage; 12. Magneto-optics and magneto-optic recording; 13. Magnetic semiconductors; Solutions to problems.

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Forthcoming

Micromagnetism and the Microstructure of Ferromagnetic Solids

Helmut Kronmüller
Max-Planck-Institut für Metallforschung
and Manfred Fahnle
Max-Planck-Institut für Metallforschung

The main theme of this book is micromagnetism, microstructure and analysis of relations between characteristic properties of the hysteresis loop and microstructure. It will be of interest to researchers and graduate students in condensed matter, electrical engineering and materials science, and to industrial researchers in the electrotechnical and recording industry.

Cambridge Studies in Magnetism

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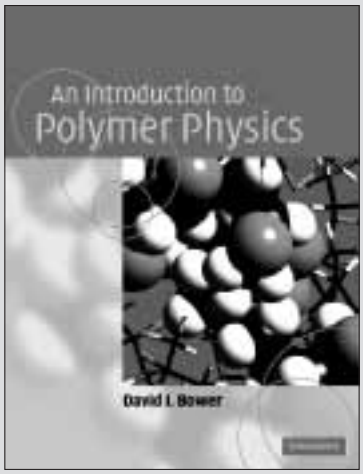
Publication July 2003

Textbook

An Introduction to Polymer Physics

David I. Bower



A general introduction to solid polymer physics at a more elementary level than many existing books, assuming no previous knowledge of polymers. It begins with a brief history of the development of synthetic polymers and an overview of the methods of polymerisation and processing. Following a description of important experimental techniques, the author deals with the structure and properties of solid polymers, including blends, copolymers and liquid crystal polymers. Suitable for advanced undergraduate and graduate students of physics, materials science or chemistry, it includes worked examples, and problems with solutions.

Contents: Preface; 1. Introduction; 2. Some physical techniques for studying polymers; 3. Molecular sizes and shapes and ordered structures; 4. Regular chains and crystallinity; 5. Morphology and motion; 6. mechanical properties I -time-independent elasticity; 7. Mechanical properties II -linear viscoelasticity; 8. Yield and fracture of polymers; 9. Electrical and optical properties; 10. Oriented polymers I -production and characterisation; 11. Oriented polymers II -models and properties; 12. Polymer blends, copolymers, and liquid crystal polymers; Appendix: Cartesian tensors; Solutions to problems; Index.

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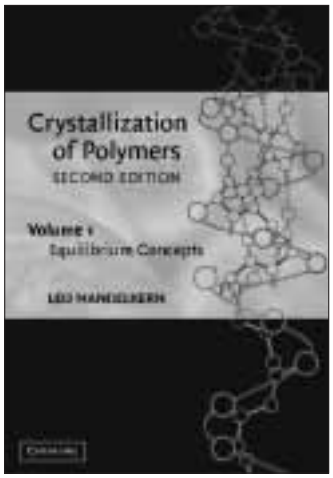
Crystallization of Polymers

Volume 1: Equilibrium Concepts
Second edition

Leo Mandelkern
Florida State University



The *Crystallization of Polymers 2nd Edition* provides a self-contained, comprehensive, and up-to-date treatment of polymer crystallization. Volume I is a presentation of the equilibrium concepts that serve as a basis for the subsequent volumes. It will be an invaluable reference work for all scientists who work in the area.

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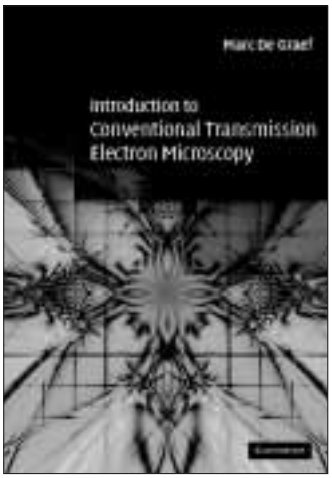
Graduate Textbook

Introduction to Conventional Transmission Electron Microscopy

Marc De Graef
Carnegie Mellon University, Pennsylvania



This graduate level textbook covers the fundamentals of conventional transmission electron microscopy (CTEM) as applied to crystalline solids. Emphasis is on the experimental and computational methods used to quantify and analyze CTEM observations. A supplementary website containing interactive modules and free Fortran source code accompanies the text.

Contents: 1. Basic crystallography; 2. Basic quantum mechanics; 3. The transmission electron microscope; 4. Getting started; 5. Dynamical electron scattering in perfect crystals; 6. Two-beam theory in defect-free crystals; 7. Systematic row and zone axis orientations; 8. Defects in crystals; 9. Electron diffraction patterns; 10. Phase contrast microscopy; Appendices.

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Publication April 2003

Journal

Microscopy and Microanalysis

Editor-in-Chief: Charles E. Lyman
Lehigh University

Published for the Microscopy Society of America

Microscopy and Microanalysis, a peer-reviewed bimonthly, publishes original research papers in the fields of microscopy, imaging, and compositional analysis. This distinguished international forum is intended for microscopists in both biology and materials science. The journal provides significant articles that describe new and existing techniques and instrumentation, as well as the applications of these to the imaging and analysis of microstructure. *Microscopy and*

Microanalysis also includes review articles, short communications, letters to the editor, and book reviews.

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Special arrangements exist for members of Microscopy Society of America.
Print ISSN 1431-9276
Electronic ISSN 1435-8115

Proceedings: Microscopy and Microanalysis 2002
Volume 8
Microscopy Society of America
2003 279 x 215 mm 544pp
0 521 82405 2 Hardback £65.00
Publication January 2003

Forthcoming
Graduate Textbook

Basic Concepts for Simple and Complex Liquids

Jean-Louis Barrat
Université Claude Bernard Lyon I
and Jean-Pierre Hansen
University of Cambridge

This book presents a unified approach to the liquid state. Important ideas are presented in a concise and rigorous manner, and illustrated with examples from both simple molecular liquids and more complex soft condensed matter systems such as polymers, colloids, and liquid crystals.

Contents: Part I. Thermodynamics, Structure and Fluctuations; Part II. Phase Transitions; Part III. Interfaces and Inhomogeneous Fluids; Part IV. Dynamics.
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1 table 27 exercises
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Publication May 2003

Phase Transition Dynamics

Akira Onuki
Kyoto University, Japan

Phase Transition Dynamics provides a fully comprehensive treatment of the study of phase transitions. Building on the statistical mechanics of phase transitions, covered in many introductory textbooks, it will be essential reading for researchers and advanced graduate students in physics, chemistry, metallurgy and polymer science.
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Macroscopic Quantum Tunneling

Shin Takagi
Fuji Tokoha University

A coherent and self-contained account of macroscopic quantum phenomena, and the application of macroscopic quantum tunneling to the Schrödinger's cat problem. Assuming knowledge of only elementary quantum mechanics, this book emphasises conceptual aspects rather than technical details, providing a firm introduction to the subject for graduate students and researchers.
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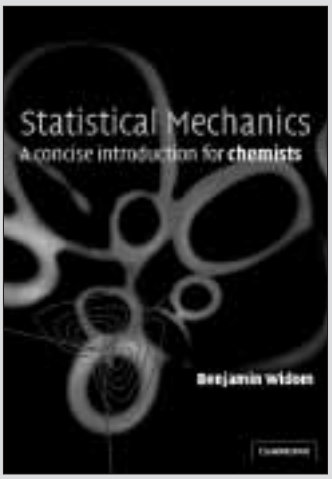
Textbook

Statistical Mechanics

A Concise Introduction for Chemists

Solutions available

B. Widom
Cornell University, New York



This is an introduction to statistical mechanics, intended to be used either in an undergraduate physical chemistry course or by beginning graduate students with little undergraduate background in the subject. It assumes familiarity with thermodynamics, chemical kinetics, the kinetic theory of gases, quantum mechanics and spectroscopy, at the level at which these subjects are normally treated in undergraduate physical chemistry. Highly illustrated with numerous exercises and worked solutions, it provides a concise, up-to-date treatise of statistical mechanics and is ideally suited to use on one-semester courses.

Pre-publication praise:

' Textbooks of statistical thermodynamics for chemists are notoriously thin on the ground as the subject, being so mathematical, is not to the taste of most chemists. Professor Widom has written a survey that many chemists will find accessible, useful, and modern. … The strengths of this excellent text are its accessibility, its authority, the range of topics treated, and its pedagogical style.'
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27 exercises
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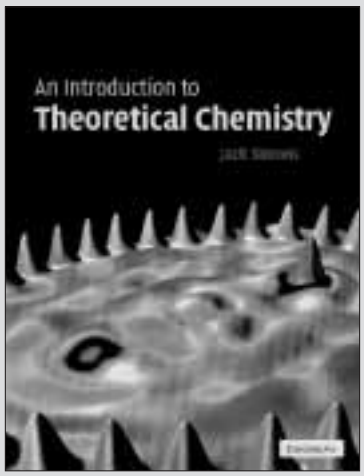
Textbook

An Introduction to Theoretical Chemistry

WWW support

Jack Simons
University of Utah



In this unique textbook Jack Simons goes back to basics and focuses on the foundations that lie at the heart of modern theoretical chemistry. Emphasis is on the concepts, tools and equations that govern the three main theoretical chemistry sub-disciplines. An associated

website supplies supplementary material plus a host of links to other theoretical chemistry sites. Ideal for advanced undergraduate or graduate students, this book is highly illustrated and contains over fifty multi-part exercises and worked solutions. It provides a concise, up-to-date treatise on the underpinnings of modern theoretical chemistry.

Contents: Part I. Background Material: 1. The basics of quantum mechanics; 2. Model problems that form important starting points; 3. Characteristics of energy surfaces; 4. Some important tools of theory; Part II. Three Primary Areas of Theoretical Chemistry: 5. An overview of theoretical chemistry; 6. Electronic structure; 7. Statistical mechanics; 8. Chemical dynamics.

2003 246 x 189 mm 472pp 118 line diagrams 59 exercises

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Publication April 2003

Graduate Textbook

Methods of Statistical Physics

Tomoyasu Tanaka
Ohio University

A graduate-level textbook on thermal physics covering classical thermodynamics, statistical mechanics and its applications.

Contents: 1. Laws of thermodynamics; 2. Thermodynamic relations; 3. The ensemble theory; 4. System Hamiltonians; 5. The density matrix; 6. The cluster variation method; 7. Infinite series representations of correlation functions; 8. The extended mean-field approximation; 9. The exact Ising lattice identities; 10. Propagation of short range order; 11. Phase transition of the two-dimensional Ising model; Appendix 1. The gamma function; Appendix 2. The critical exponent in the tetrahedron approximation; Appendix 3. Programming organization of the cluster variation method; Appendix 4. A unitary transformation applied to the Hubbard Hamiltonian; Appendix 5. Exact Ising identities on the diamond lattice; References; Subject index.

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Journal

Journal of Fluid Mechanics

Editors: Stephen H. Davis
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and T. J. Pedley
University of Cambridge

Journal of Fluid Mechanics is the leading international journal in the field and is essential reading for all those concerned with developments in fluid mechanics. It publishes authoritative articles covering theoretical, computational and experimental investigations of all aspects of the mechanics of fluids. Each issue contains papers on both the fundamental aspects of fluid mechanics, and their applications to other fields such as aeronautics, astrophysics, physiology, chemical and mechanical engineering, hydraulics, meteorology, oceanography, geology, acoustics and combustion.

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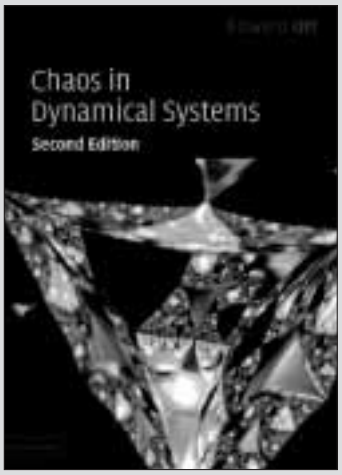
Nonlinear Science

New Edition
Graduate Textbook

Chaos in Dynamical Systems

Second edition
Edward Ott
University of Maryland



In the new edition of this classic textbook Edward Ott has added much new material and has significantly increased the number of homework problems. The most important change is the addition of a completely new chapter on control and synchronization of chaos.

From reviews of the previous edition:
'… a stimulating selection of topics that could be taught a la carte in postgraduate courses. … Ott has managed to capture the beauty of this subject in a way that should motivate and inform the next generation of students in applied dynamical systems.'
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Contents: Preface; 1. Introduction and overview; 2. One-dimensional maps; 3. Strange attractors and fractal dimensions; 4. Dynamical properties of chaotic systems; 5. Nonattracting chaotic sets; 6. Quasiperiodicity; 7. Chaos in Hamiltonian systems; 8. Chaotic transitions; 9. Multifractals; 10. Control and synchronization of chaos; 11. Quantum chaos.

2002 246 x 189 mm 490pp 243 line diagrams 2 tables

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Textbook

Chaos: A Mathematical Introduction

John Banks
La Trobe University, Victoria
Valentina Dragan
La Trobe University, Victoria
and Arthur Jones
La Trobe University, Victoria

Here is a textbook that presents ideas about chaos in discrete time dynamics in a form where they should be accessible to anyone who has taken a first course in undergraduate calculus. Remarkably, it manages to do so without discarding a commitment to mathematical substance and rigour.

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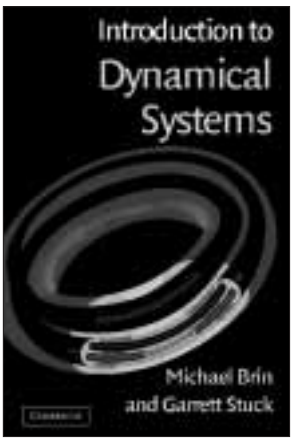
Australian Mathematical Society Lecture Series, 18

2003 228 x 152 mm 320pp 154 line diagrams 303 exercises
0 521 53104 7 Paperback c. £29.95
Publication January 2003

Graduate Textbook

Introduction to Dynamical Systems

M. Brin
University of Maryland, College Park
and G. Stuck
University of Maryland, College Park



This introduction to the subject of dynamical systems is ideal for a one-year graduate course. From chapter one, the authors use examples to motivate, clarify and develop the theory. The book rounds off with beautiful and remarkable applications to such areas as number theory, data storage, and Internet search engines.

Contents: Introduction; 1. Examples and basic concepts; 2. Topological dynamics; 3. Symbolic dynamics; 4. Ergodic theory; 5. Hyperbolic dynamics; 6. Ergodicity of Anosov diffeomorphisms; 7. Low dimensional dynamics; 8. Complex dynamics; 9. Measure theoretic entropy; Index.

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A Universal Concept in Nonlinear Science

Arkady Pikovsky
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Optics

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Lévy Statistics and Laser Cooling

How Rare Events Bring Atoms to Rest

François Bardou
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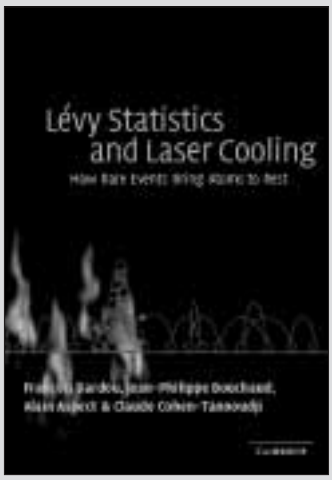
and Claude Cohen-Tannoudji
Collège de France, Paris



A graduate-level book demonstrating the application of Lévy statistics to understand laser cooling of atoms.

'… a beautifully concise yet complete introduction to the logic of this incredible technique … students of physics and other scientists interested in laser cooling will find this book hard to beat for insight and conceptual clarity.'
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Contents: 1. Introduction; 2. Subrecoil laser cooling and anomalous random walks; 3. Trapping and recyling. Statistical properties; 4. Broad distributions and Lévy statistics: a brief overview; 5. Proportion of atoms trapped in quasi-dark states; 6. Momentum distribution; 7. Physical discussion; 8. Tests of the statistical approach; 9. Example of application: optimization of the peak of cooled atoms; 10. Conclusion; Appendix A. Correspondence of the parameters of the statistical models with atomic and laser parameters; Appendix B. The Doppler case; Appendix C. The special case mu = 1.

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Compact Blue-Green Lasers

William P. Risk
IBM Almaden Research Center, New York
Timothy R. Gosnell
Los Alamos National Laboratory
and Arto V. Nurmikko
Brown University, Rhode Island

The authors have combined their diverse expertise from industry and academia to write the first comprehensive volume on the generation and application of blue-green lasers. It can be used by graduates or as a reference for academics and professionals in optics, applied physics, and electrical engineering.

Contents: Part I. Blue-green Lasers Based on Nonlinear Frequency Conversion; Part II. Upconversion Lasers; Part III. Blue-green Semiconductor Lasers.

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Publication January 2003

Journal

Laser and Particle Beams

Pulse Power and High Energy Densities
Editor: Dieter H. H. Hoffmann
GSI Darmstadt

Laser and Particle Beams is an international journal which deals with basic physics issues of intense laser and particle beams, and the interaction of these beams with matter. The journal is designed to aid scientists in the task of understanding and modeling basic phenomena in these fields. Subjects covered include the physics of high energy densities; non-LTE phenomena; hot dense matter and related atomic, plasma and hydrodynamic physics and astrophysics; intense sources of coherent radiation; high current particle accelerators; beam-wave interaction; and pulsed power technology.

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online

Textbook

Basics of Holography

P. Hariharan
University of Sydney

A general introduction to the subject of holography. It covers the theory of holographic imaging, the practical aspects of holography including methods of producing different types of hologram for displays, and the most important applications of holography, including holographic interferometry. Numerical problems (and solutions) are provided at the ends of chapters. This book is an invaluable resource for students and researchers in science and engineering who would like to learn more about holography and its applications in science and industry.

Contents: 1. Holographic imaging; 2. The reconstructed image; 3. Thin and thick holograms; 4. Light sources; 5. The recording medium; 6. Recording materials; 7. Display holograms; 8. Multicolor images; 9. Copying holograms; 10. Computer-generated holograms; 11. Applications in imaging; 12. Other applications; 13. Holographic interferometry; 14. Advanced techniques; 15. Electronic techniques; Appendix A. Interference and coherence; Appendix B. Fourier transforms; Appendix C. Wave propagation; Appendix D. Speckle.

2002 247 x 174 mm 163pp 78 line diagrams
17 half-tones 3 tables
0 521 80741 7 Hardback £55.00
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Classical Optics and its Applications

Masud Mansuripur
University of Arizona

A graduate-level book, comprising thirty seven comprehensive, pedagogical and self-contained chapters on a range of major topics in classical optics, including the basic concepts and their technological applications. Numerous diagrams and computer simulation images, but minimal mathematical content, provide the reader with accessible discussions of a variety of optical phenomena.

'Masud Mansuripur describes phenomena that we all know we should understand, even if our recollection is hazy … Forget photonics, it is classical optics that turns today's optical inventions into real products and processes that benefit society … I thoroughly recommend this book to anyone in optics who is interested in doing something useful.'
Chris Dainty, *Nature*

2002 247 x 174 mm 512pp 233 line diagrams
183 half-tones 1 table
0 521 80093 5 Hardback £80.00
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RF Photonic Technology in Optical Fiber Links

Edited by William S. C. Chang
University of California, San Diego

A review of RF photonic components, transmission systems, and signal processing examples in optical fibers from leading academic, government, and industry scientists working in this field. The emphasis on design, performance and practical applications will be especially interesting to engineers and research scientists developing novel systems based on this technology.

2002 247 x 174 mm 422pp 220 line diagrams
3 half-tones 12 tables
0 521 80375 6 Hardback £80.00

Optoelectronics

Emmanuel Rosencher
Ecole Polytechnique, Paris
and Borge Vinter
Laboratoire Central de Recherches, France
Translated by P. G. Piva

Optoelectronics is a practical and self-contained graduate-level textbook on the subject, which will be of great value to both students and practising engineers. The book builds on basic concepts to describe the physics, properties and performances of optoelectronic devices, and concludes by presenting the latest devices.

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10 tables 290 figures
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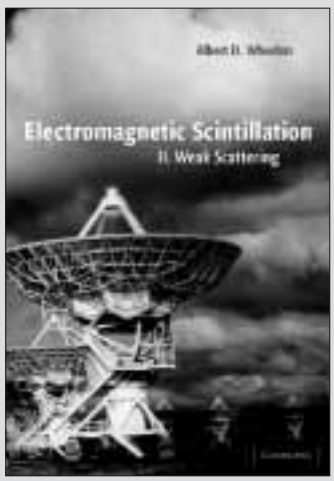
Forthcoming
New Volume

Electromagnetic Scintillation

Volume 2: Weak Scattering

Albert D. Wheelon
National Oceanic and Atmospheric Administration, District of Columbia



The first volume of this set of books on electromagnetic scintillation dealt with phase and angle-of-arrival measurement errors, which are accurately described by

geometrical optics. This second volume concentrates on amplitude and intensity fluctuations of the received signal.
2003 247 x 174 mm 450pp 116 line diagrams 12 tables
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Publication May 2003

Volume 1: Geometrical Optics
2001 247 x 174 mm 474pp 110 figures
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Chemical and Atomic Physics

New Series

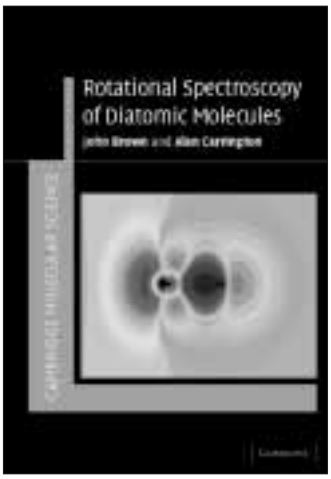
Cambridge Molecular Science

As we enter the 21st century, chemistry has positioned itself as the central science. Its subject matter, atoms and the bonds between them, is now central to many of the life sciences on the one hand, as biological chemistry brings the subject to the atomic level, and to condensed matter and molecular physics on the other. Developments in quantum chemistry and in statistical mechanics have also created a fruitful overlap with mathematics and theoretical physics. Consequently, boundaries between chemistry and the other traditional sciences are fading and the term Molecular Science now describes this vibrant area of research. Molecular science has made giant strides in recent years. Bolstered both by instrumental and theoretical developments, it covers the temporal scale down to femtoseconds, a timescale sufficient to define atomic dynamics with precision, and the spatial scale down to a small fraction of an Angstrom. This has led to a very sophisticated level of understanding of the properties of small molecule systems, but there has also been a remarkable series of developments in more complex systems. These include: protein engineering; surfaces and interfaces; polymers; colloids; and biophysical chemistry. This new series will provide a vehicle for the publication of advanced textbooks and monographs introducing and reviewing these exciting developments.

Forthcoming
Graduate Textbook

Rotational Spectroscopy of Diatomic Molecules

John Brown
University of Oxford
and Alan Carrington
University of Southampton



Written to be *the* definitive text on the rotational spectroscopy of diatomic molecules, this book develops the theory behind the energy levels of diatomic molecules and then summarises the many experimental methods used to study their spectra in the gaseous state.

Contents: 1. General introduction; 2. The separation of nuclear and electronic motion; 3. The electronic hamiltonian; 4. Interactions arising from nuclear magnetic and electric moments; 5. Angular momentum theory and spherical tensor algebra; 6. Electronic and vibrational states; 7. Derivation of the effective hamiltonian; 8. Molecular beam magnetic and electric resonance; 9. Microwave and far-infrared magnetic resonance; 10. Pure rotational spectroscopy; 11. Double resonance spectroscopy; Appendices.

Cambridge Molecular Science
2003 247 x 174 mm 950pp 295 line diagrams 74 tables
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Publication May 2003

Valence Bond Methods

Theory and Applications
Gordon A. Gallup
University of Nebraska, Lincoln

This book focuses on *ab initio* valence bond theory. Part I gives examples of two-electron calculations and the necessary theory to extend these to larger systems. Part II discusses a series of case studies. Reference is made throughout to the freely available CRUNCH computer program for molecular structure calculations.
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Forthcoming

Imaging in Molecular Dynamics

Technology and Applications
Edited by Benjamin Whitaker
University of Leeds

Charged particle imaging has revolutionised experimental studies of photodissociation and bimolecular collisions over the past couple of decades. Written in a tutorial style by some of the key practitioners in the field, this book gives a comprehensive account of the technique and describes many of its recent applications.
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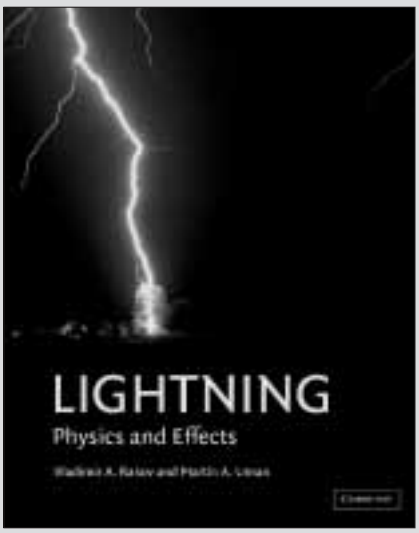
Publication May 2003

Solar, Terrestrial and Atmospheric Physics

Forthcoming
Introductory offer

Lightning

Physics and Effects
Vladimir A. Rakov
University of Florida
and Martin A. Uman
University of Florida



Lightning: Physics and Effects is the first book that covers essentially all aspects of lightning, including lightning physics, lightning protection, and the interaction of lightning with a variety of objects and systems as well as with the environment. It is written in a style that will be accessible to the technical non-expert and is addressed to anyone interested in lightning and its effects. This will include physicists, engineers working in the power, communications, computer, and aviation industries, meteorologists, atmospheric chemists, foresters, ecologists, physicians working

in the area of electrical trauma, and architects. This comprehensive reference volume contains over 300 illustrations, 70 tables containing quantitative information, and a bibliography of over 6000 references.

• An up-to-date and comprehensive reference source on lightning physics and lightning effects

• Authored by two of the world's leading authorities in the field of lightning

• Also accessible to non-specialists seeking an understanding of how lightning affects other systems (e.g. electrical and biological)

Contents: 1. Introduction; 2. Incidence of lightning; 3. Electrical structure of lightning-producing clouds; 4. Downward negative lightning discharges to ground; 5. Positive and bipolar lightning discharges to ground; 6. Upward lightning initiated by ground-based objects; 7. Artificial initiation (triggering) of lightning by ground-based activity; 8. Winter lightning in Japan; 9. Cloud discharges; 10. Lightning and airborne vehicles; 11. Thunder; 12. Modelling of lightning processes; 13. The distant lightning electromagnetic environment: atmospherics, Schumann resonances and whistlers; 14. Lightning effects in the middle and upper atmosphere; 15. Lightning effects on the chemistry of the atmosphere; 16. Extraterrestrial lightning; 17. Lightning locating; 18. Deleterious effects of lightning and protective techniques; 19. Lightning hazards to humans and animals; 20. Ball lightning, bead lightning, and other unusual discharges; Appendix. Books on lightning and related subjects.

2003 276 x 219 mm 696pp 246 line diagrams
37 half-tones 9 colour plates 71 tables
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Publication April 2003

Introductionary price £140.00, available until three months after publication.

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New Understanding of the Earth from Space Research

Paul D. Lowman Jr.
Goddard Space Flight Center, Maryland
Foreword by Neil A. Armstrong

Paul Lowman, a NASA scientist for over 40 years, describes how space exploration has provided new insights into the geology and geophysics of the Earth. A foreword by Neil Armstrong emphasizes that the exploration of space has lead us to a far deeper understanding of our own planet. Well illustrated, with an extensive bibliography and technical glossary, this book is a valuable summary of research for geologists and geophysicists. It will serve as a supplementary text for students of tectonics, remote sensing and planetary science.

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46 half-tones 27 colour plates 6 tables
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The High-Latitude Ionosphere and its Effects on Radio Propagation

Robert Hunsucker
University of Alaska-Fairbanks
and John Hargreaves
University of Lancaster

A modern treatment of the physics and phenomena of the ionosphere, beginning with the basics of radio propagation and the use of radio techniques in ionospheric studies. Ample cross-referencing, chapter summaries and reference lists make this book an invaluable aid for graduate students, ionospheric physicists and radio engineers.

Cambridge Atmospheric and Space Science Series

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Scattering, Absorption, and Emission of Light by Small Particles

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NASA-Marshall Space Flight Center, Huntsville
Larry D. Travis
NASA-Marshall Space Flight Center, Huntsville
and Andrew A. Lacis
NASA-Marshall Space Flight Center, Huntsville

Light scattered by small particles can be remarkably rich in information on particle properties and thus provides a sensitive tool for laboratory particle characterization and remote sensing analyses of clouds and aerosols. This text covers light scattering by arbitrarily shaped particles, and practical ways of solving electromagnetic scattering problems.

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Graduate Textbook

Atmospheric Modeling, Data Assimilation and Predictability

Eugenia Kalnay
University of Maryland

This comprehensive text and reference work on numerical weather prediction covers for the first time, not only methods for numerical modeling, but also the important related areas of data assimilation and predictability. It will therefore be of great interest to professors and students of meteorology, atmospheric science, oceanography and hydrology.

Contents: 1. Historical overview; 2. The continuous equations; 3. Discretization of the equations; 4. Introduction to the parameterizations of subgrid-scale physical processes; 5. Data assimilation; 6. Atmospheric predictability and ensemble forecasting; References; Appendix A. The early history of numerical weather prediction; Appendix B. List of acronyms; Appendix C. Coding and checking the linear tangent and adjoint models; Appendix D. Post processing of numerical model output to obtain station weather forecasts.

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Forthcoming
Graduate Textbook

Dynamics of the Atmosphere
A Course in Theoretical Meteorology
Wilford Zdunkowski
Johannes Gutenberg Universität Mainz, Germany
and Andreas Bott
Rheinische Friedrich-Wilhelms-Universität Bonn

A graduate-level text book for students in meteorology, containing numerous exercise sets and solutions.

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Textbook

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History, Science, and Regulation
Mark Z. Jacobson
Stanford University

Accessible introductory textbook for students and researchers, and an introduction for general audiences.

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140 colour plates 61 tables 142 exercises
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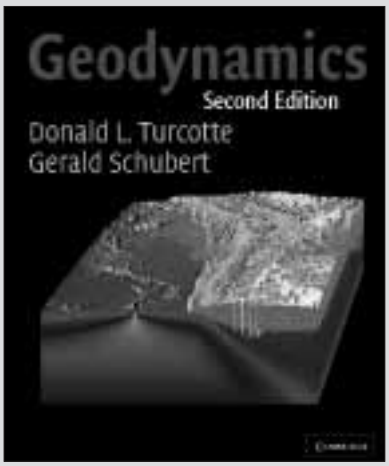
New Edition
Textbook

Geodynamics
Second edition
Donald L. Turcotte
Cornell University, New York
and Gerald Schubert
University of California, Los Angeles



First published in 1982, Don Turcotte and Jerry Schubert's *Geodynamics* became a classic textbook for several generations of students of geophysics and geology. In this second edition, the authors bring this text completely up-to-date. Important additions include a chapter on chemical geodynamics, an updated coverage of comparative planetology based on recent planetary missions, and a variety of other new topics. This new edition will once again prove to be a classic textbook for intermediate to advanced undergraduates and graduate students in geology, geophysics, and earth science.

Advance praise for the second edition of *Geodynamics*:

'The exquisite clarity of exposition and the perfectly balanced level of mathematical and physical sophistication are maintained in this second edition, which differs by about ten percent from the original. The authors attribute this high degree of conservation to the fact that the book 'deals with fundamental physical processes that do not change'; however, I consider it to be a consequence of their impeccable choice of topics.'

Professor Tony Dahlen,
Princeton University

Contents: Preface; 1. Plate tectonics; 2. Stress and strain in solids; 3. Elasticity and flexure; 4. Heat transfer; 5. Gravity; 6. Fluid mechanics; 7. Rock rheology; 8. Faulting; 9. Flow in porous media; 10. Chemical geodynamics; Appendix 1. Symbols and units; Appendix 2. Physical constants and properties; Answers to selected problems; Index.

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Graduate Textbook

The Mechanics of Earthquakes and Faulting
Second edition
Christopher H. Scholz
Columbia University, New York

This revised second edition has been thoroughly up-dated to include all of the previous decade's major advances in the understanding of earthquakes and faulting processes. Essential reading for graduate students and research scientists in the fields of seismology, physics, geology, geodesy and rock mechanics.

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Jose Pujol
University of Memphis

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Publication April 2003

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Edited by Bhola Dwivedi
Banaras Hindu University, Varanasi, India

Dynamic Sun presents a comprehensive and authoritative overview of the Sun, from its deep core to the outer corona, and the solar wind. Suitable for graduate students and researchers in solar physics, astrophysics, and astronomy.

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61 half-tones 17 tables
0 521 81057 4 Hardback c. £60.00
Publication April 2003

Textbook

An Introduction to the Theory of Stellar Structure and Evolution

Dina Prialnik
Tel-Aviv University

This lucid textbook provides undergraduate students with a clear and comprehensive introduction to the theory that predicts the birth, life and death of stars and their internal structure. It requires only basic introductory undergraduate physics and mathematics, and no prior knowledge of astronomy. Exercises and solutions are included.

2000 253 x 177 mm 276pp 60 line diagrams
10 half-tones 12 tables 40 exercises
0 521 65065 8 Hardback £42.50
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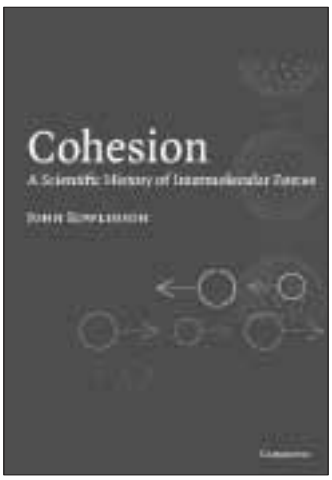
History and Philosophy of Physics

Cohesion

A Scientific History of Intermolecular Forces

J. S. Rowlinson
University of Oxford



Why does matter stick together? Why do gases condense to liquids, and liquids to solids? This book provides a detailed historical account of how some of the leading scientists of the past three centuries have tried to answer these questions.

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Second edition

David Millar
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1 genealogical table
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The Cambridge History of Science

Volume 4: Eighteenth-Century Science

Edited by Roy Porter
Wellcome Institute for the History of Medicine, London

The fullest and most complete survey of the development of science in the eighteenth century.

The Cambridge History of Science

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The Cambridge History of Science

Volume 5: The Modern Physical and Mathematical Sciences

Edited by Mary Jo Nye
Oregon State University

A new and comprehensive examination of the history of the modern physical and mathematical sciences.

The Cambridge History of Science

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Publication December 2002

The Scientific Letters and Papers of James Clerk Maxwell

Volume 3

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University of Lancaster

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The Cambridge Companion to Newton

Edited by I. Bernard Cohen
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Tufts University, Massachusetts

In this volume a team of distinguished contributors examines all the main aspects of Newton's thought.

Cambridge Companions to Philosophy

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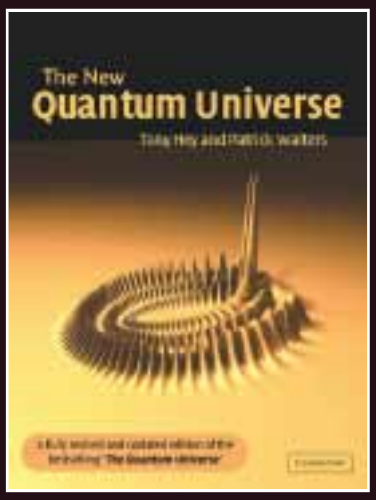

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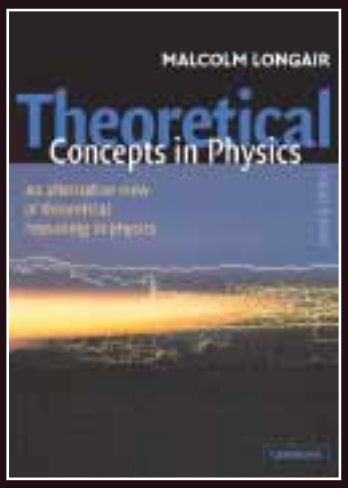

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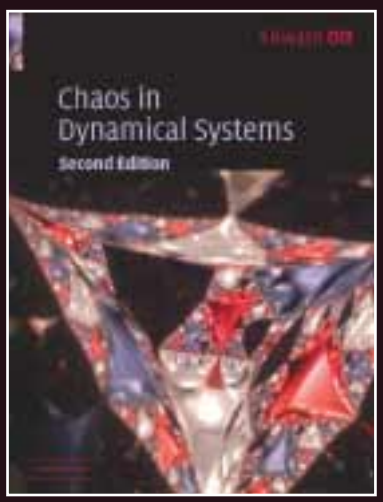

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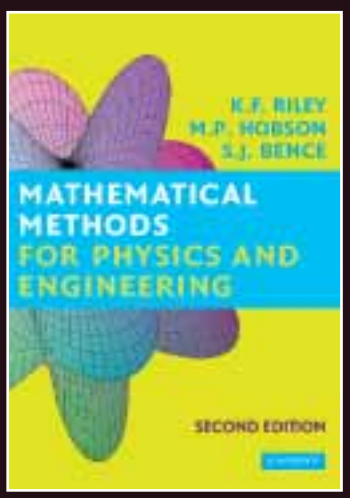

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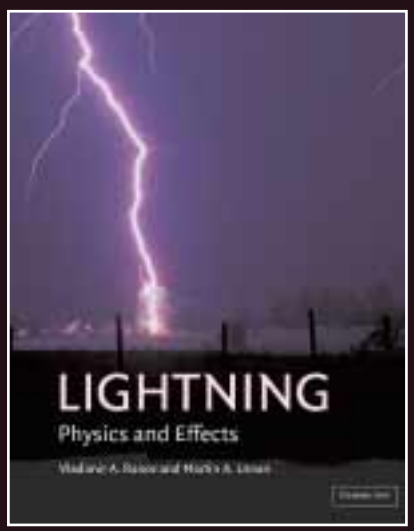

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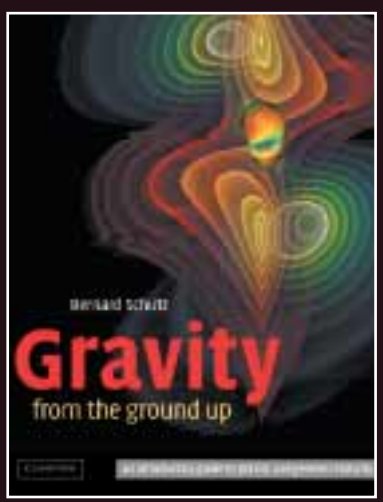

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