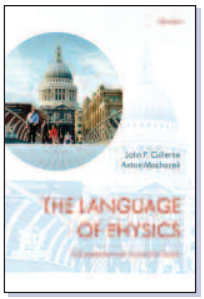
The Language of Physics

A Foundation for University Study



John P. Cullerne, Winchester College, and **Anton Machacek**, Royal Grammar School, High Wycombe

'This book is highly recommended for first-year undergraduate Students.'
Contemporary Physics

This book is intended for students starting, or preparing for, their study of physical science or engineering at university. It introduces physics in the language of mathematics, and provides revision of the mathematical techniques and physical concepts; frequently in the form of 'workshops'—instructive questions with full solutions.

2008 | 256 pages | 75 line drawings

978-0-19-953380-0, PAPERBACK £21.50/$45.00
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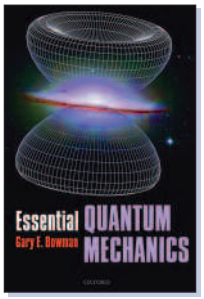
Essential Quantum Mechanics

Available in... www.oxfordscholarship.com

Gary Bowman, Northern Arizona University



'Very well written, clear and to the point, and just at the right level to fill the regrettable gap between the maths-free popular books on quantum mechanics and the full courses in most textbooks.'
Jeremy Butterfield, University of Cambridge

'This book should be useful for undergraduate and graduate students in quantum mechanics, mathematics, materials science and Chemistry.'
CERN Courier

Solutions manual available for lecturers. Please visit www.oup.com/uk for more information.

2007 | 224 pages | 20 line drawings

978-0-19-922893-5, PAPERBACK £25.50/$55.00
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Quantum Mechanics

Classical Results, Modern Systems, and Visualized Examples

SECOND EDITION

Richard Robinett, Pennsylvania State University

Quantum Mechanics is a comprehensive introduction to quantum mechanics for advanced undergraduate students in physics. It provides the reader with a strong conceptual background in the subject, extensive experience with the necessary mathematical background, as well as numerous visualizations of quantum concepts and phenomena.

2006 | 720 pages | 191 figures

978-0-19-853097-8, HARDBACK £48.50/$79.95

NEW EDITION

Concepts in Thermal Physics

suitable as a student text

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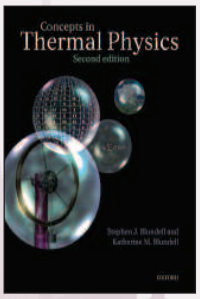


Stephen J. Blundell and **Katherine M. Blundell**, both at the University of Oxford, UK

'With so many results derived from so few assumptions, it is important that the presentation be clear and logical. *Concepts in Thermal Physics* by Stephen J. Blundell and Katherine M. Blundell fulfills that need admirably ... it provides an excellent introduction to thermodynamics and statistical mechanics. It deserves serious consideration as a textbook for any undergraduate course on those topics.'
Physics Today

This book provides a modern introduction to the main principles that are foundational to thermal physics, thermodynamics and statistical mechanics. The key concepts are carefully presented in a clear way, and new ideas are illustrated with copious worked examples as well as a description of the historical background to their discovery. Applications are presented to subjects as diverse as stellar astrophysics, information and communication theory, condensed matter physics and climate change. Each chapter concludes with detailed exercises.

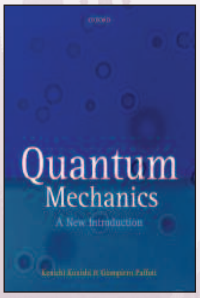
Solutions manual available for lecturers. Please visit www.oup.com/uk for more information.

2009 | 512 pages | 250 b&w line illustrations | 35 b&w halftones

978-0-19-956210-7, PAPERBACK £28.50/$55.00
978-0-19-956209-1, HARDBACK £57.50/$99.00

Quantum Mechanics

A New Introduction



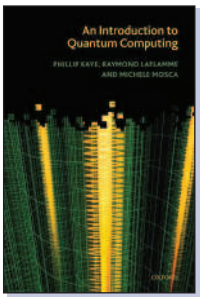
Kenichi Konishi and **Giampiero Paffuti**, both at the University of Pisa and INFN, Pisa

This is a modern, and relatively comprehensive introductory textbook on Quantum Mechanics. It is intended to correct the lack of such a book today, despite the ever-increasing importance of the subject in contemporary science, technology, and everyday life. With its clear, pedagogical presentation, and with many examples discussed and problems solved both analytically or with numerical methods, the book is a unique and enjoyable textbook on Quantum Mechanics, useful for physics students, researchers and teachers alike.

2009 | 800 pages | 222 line drawings

978-0-19-956027-1, PAPERBACK £28.50/$59.95
978-0-19-956026-4, HARDBACK £67.50/$129.00

An Introduction to Quantum Computing



Phillip Kaye, **Raymond Laflamme**, and **Michele Mosca**, all at the University of Waterloo, Ontario, Canada

This concise, accessible introduction to quantum computing is aimed at advanced undergraduate and beginning graduate students from a variety of scientific backgrounds. The text is technically detailed and clearly illustrated throughout with diagrams and exercises.

2006 | 288 pages | numerous line drawings

978-0-19-857049-3, PAPERBACK £32.00/$65.00
978-0-19-857000-4, HARDBACK £97.00/$139.50

NEW IN PAPERBACK

Tensors and Manifolds

With Applications to Physics

SECOND EDITION

Robert H. Wasserman, Michigan State University, USA

This second edition of *Tensors and Manifolds* is based on courses taken by advanced undergraduate and beginning graduate students in mathematics and physics, giving an introduction to the expanse of modern mathematics and its application in modern physics. It aims to fill the gap between the basic courses and the highly technical and specialised courses which both mathematics and physics students require in their advanced training, while simultaneously trying to promote, at an early stage, a better appreciation and understanding of each other's discipline.

2009 | 464 pages | 46 line drawings

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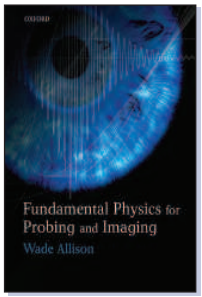
Fundamental Physics for Probing and Imaging



Wade Allison, University of Oxford

'All of us (whether students or professionals, academics or clinicians) need to engage with the fundamentals of our subject and medical physicists can do so with this book. For most of us, the going will be tough but the effort worthwhile.'

Scope

2006 | 352 pages | 139 line drawings and 32 halftones

978-0-19-920389-5, PAPERBACK £33.50/$60.00
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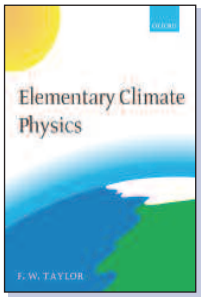
Elementary Climate Physics

suitable as a student text

F. W. Taylor, University of Oxford



'This introductory text, suitable for undergraduates in the physical sciences, examines the basic mechanisms that control climate, applies relatively simple physics to the problem of climatic change, and provides a foundation for more advanced work.'

Bulletin of the American Meteorological Society

2005 | 232 pages | numerous line drawings | black and white illustrations | mathematical examples and tables

978-0-19-856734-9, PAPERBACK £27.50/$70.00
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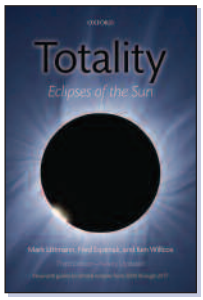


Mark Littmann, University of Tennessee, **Fred Espenak**, NASA Goddard Space Flight Center, Greenbelt, Maryland, and the late **Ken Willcox**, formerly at Bartlesville Wesleyan College, Oklahoma

'I found the writing style of this superb book particularly to my liking and so easy on the eye that I finished it in just two sittings. There is no question about this at all; if you have even the slightest interest in our closest star then this book really should be in your collection!'

Greg Parker, Astronomy Now

'...continues to prove itself to be an indispensible guide and reference book for solar eclipse observation today...*Totality* covers every aspect of solar eclipses and addresses a wide audience with an interest in astronomy.'

Kathryn Chung, Bluesci

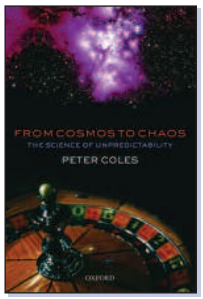
2009 | 360 pages | 16 pages of colour plates | 75 b&w halftones | 105 b&w line drawings

978-0-19-956552-8, PAPERBACK £10.00/$18.95

NEW IN PAPERBACK

From Cosmos to Chaos

The Science of Unpredictability



Peter Coles, Cardiff University

'The book provides a truly enjoyable overview of the role of probability in science, as well as in everyday life. It is aimed essentially at non-specialist readers, but even those who are familiar with its contents will enjoy the stimulating presentation.'

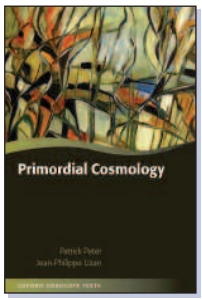
Nature

This book looks at the role of probability in modern science. Focussing on this aspect of the latest discoveries helps the reader get behind the hype, and understanding the uncertain status of things that are often presented as certainties. The book covers recent exciting developments in physics, such as superstrings and dark energy, but also draws lessons for everyday life. Written by an insider, and using non-technical language, it is an attempt to explain how science really works.

August 2010 | 224 pages | 20 b/w line & halftone illustrations

978-0-19-958814-5, PAPERBACK £14.99/$26.95
978-0-19-856762-2, HARDBACK £29.00/$55.00

Primordial Cosmology



Patrick Peter and **Jean-Philippe Uzan**, both at the Institut d'Astrophysique de Paris

'Fills a niche that other recent cosmology texts leave open, namely self-contained derivations in cosmology that span both fundamental issues and applications to the real universe that are of great interest to observers.'

Joseph Silk, University of Oxford

Primordial Cosmology provides an extensive survey of all the physics necessary to understand the current developments in the field of fundamental cosmology, as well as an overview of the observational data and methods. It will help students to get into research by providing definitions, main techniques and ideas discussed today.

2009 | 856 pages | 223 line illustrations

978-0-19-920991-0, HARDBACK £57.50/$110.00

Foundations of Modern Cosmology

suitable as a student text

SECOND EDITION

John F. Hawley and **Katherine A. Holcomb**, University of Virginia, USA

Recent discoveries in astronomy have revolutionized the field of cosmology. While many long-standing questions in cosmology have now been answered, the new data pose new mysteries such as the nature of the 'dark energy' that dominates the universe. This second edition provides an accessible and thorough text on the physics of cosmology and a lively account of the modern concordance model of the universe, from the big bang to a distant future dominated by dark energy.

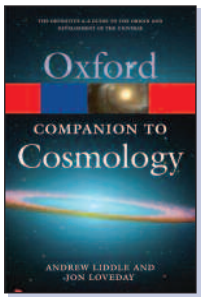
2005 | 568 pages | numerous line drawings | halftones and mathematical examples

978-0-19-853096-1, HARDBACK £56.50

NEW IN PAPERBACK

The Oxford Companion to Cosmology

suitable as a student text



Andrew Liddle and **Jon Loveday**, both at the University of Sussex

The Oxford Companion to Cosmology includes over 350 in-depth entries, extensively cross-referenced, describing the modern view of cosmology, including both theoretical ideas and the various types of observational evidence. It is highly illustrated with diagrams and half tones throughout, and includes entry-level web links.

Oxford Paperback Reference

2009 | 368 pages | 175 b&w integrated halftones and diagrams

978-0-19-956084-4, PAPERBACK £11.99/$24.99