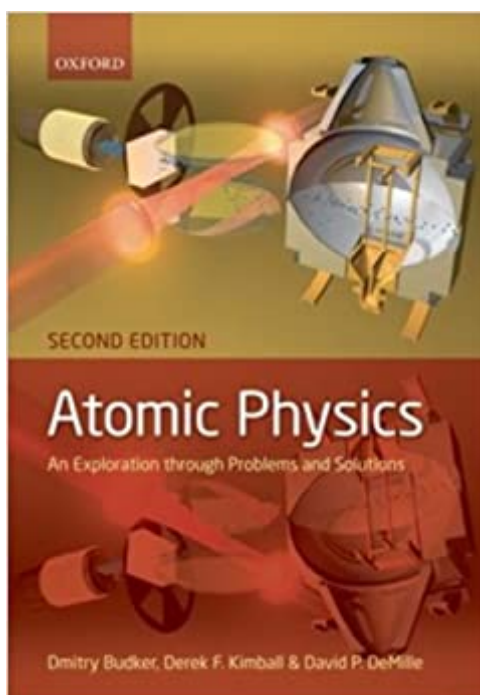


The book was found

Atomic Physics: An Exploration Through Problems And Solutions



Synopsis

This book provides a bridge between the basic principles of physics learned as an undergraduate and the skills and knowledge required for advanced study and research in the exciting field of atomic physics. The text is organized in a unique and versatile format --- as a collection of problems, hints, detailed solutions, and in-depth tutorials. This enables the reader to open the book at any page and get a solid introduction to subjects on the cutting edge of atomic physics, such as frequency comb metrology, tests of fundamental symmetries with atoms, atomic magnetometers, atom trapping and cooling, and Bose-Einstein condensates. The text also includes problems and tutorials on important basics that every practicing atomic physicist should know, but approached from the perspective of experimentalists: formal calculations are avoided where possible in favor of 'back-of-the-envelope' estimates, symmetry arguments, and physical analogies. The 2nd edition contains over 10 new problems, and includes important updates, revisions, and corrections of several problems of the 1st edition.

Book Information

Paperback: 540 pages

Publisher: Oxford University Press; 2 edition (November 15, 2008)

Language: English

ISBN-10: 0199532419

ISBN-13: 978-0199532414

Product Dimensions: 9.6 x 0.9 x 6.7 inches

Shipping Weight: 2.4 pounds (View shipping rates and policies)

Average Customer Review: 3.6 out of 5 stars 4 customer reviews

Best Sellers Rank: #648,785 in Books (See Top 100 in Books) #81 in Books > Science & Math > Physics > Nuclear Physics > Atomic & Nuclear Physics #1997 in Books > Textbooks > Science & Mathematics > Physics

Customer Reviews

'A remarkable book, indeed, greatly exceeding our expectations. [...] The authors are truly taken by the logic, beauty, and harmonious diversity of atomic-physics phenomena and are offering to share their knowledge and insights with the reader.' From Preface to the Russian edition, by V.S. Zapaskii (translator) and E.B. Alexandrov (editor)

Dmitry Budker Department of Physics University of California at Berkeley Ph.D. from the University

of California at Berkeley (1993), American Physical Society Award for Outstanding Doctoral Thesis Research in Atomic, Molecular and Optical Physics (1994), National Science Foundation Career Award (1998), Miller Research Professorship (2002-2003), Elected Fellow of the American Physical Society (2005), R&D 100 Award for Laser Detected Magnetic-Resonance Imaging (2007). Derek F. Kimball Department of Physics California State University - East Bay Ph. D. from the University of California at Berkeley (2005), Departmental Citation in Physics, University of California at Berkeley (1998). David P. DeMille Physics Department Yale University Ph. D. from the University of California at Berkeley (1994), Elected Fellow of the American Physical Society (2005), Francis M. Pipkin Award (2007).

The title says it all. Its full of hand-waving arguments and formulas pulled from thin air. One learns nothing by reading this book.

Any time you want to get a quick introduction to a new subject in atomic physics, this book is the perfect place to start. Especially if you're an experimentalist. Do note that this book is written for those who have finished the basic undergraduate curriculum (quantum, E&M, etc.). One of the nice things about the text is that each problem and solution is self-contained so that if you want to learn, say, about frequency combs, you can just skip ahead to read and work on the problem on frequency combs. Great reference!

This book is not a typical textbook and as such may be hard to learn from as a first text on your own. To aid these readers, many problems are indicated as Tutorials and cover a topic in a more introductory way. With a course lecture, or as a supplemental text it works well, and it is best suited for students familiar with the basics but looking for ways to tackle advanced topics that come directly from the lab. I keep this book nearby and turn to it often as a way to get some practice and fill in the gaps in my understanding of this broad (and growing) field. Very few books present "theory for experimentalists" but this book succeeds at doing exactly that.

Lots of valuable nuggets in this book. Particularly useful for grad students and above doing experimental research in atomic physics.

[Download to continue reading...](#)

Atomic physics: An exploration through problems and solutions Chaos in Atomic Physics
(Cambridge Monographs on Atomic, Molecular and Chemical Physics) Prostate Problems Home

Remedies, How To Fight Prostate Problems At Home, Get Rid Of Prostate Problems Fast!: Back On Track - Fighting Prostate Problems At Home 100 Instructive Calculus-based Physics Examples: Electricity and Magnetism (Calculus-based Physics Problems with Solutions Book 2) 100 Instructive Calculus-based Physics Examples: The Laws of Motion (Calculus-based Physics Problems with Solutions) Glencoe Physics: Principles and Problems, Student Edition (PHYSICS:PRINC AND PROBLEMS) The Atomic Sea: Part Seven: The Atomic Jungle Atomic and Molecular Radiation Physics (Wiley Monographs on Chemical Physics) Fundamental Aspects of Plasma Chemical Physics: Transport (Springer Series on Atomic, Optical, and Plasma Physics) Atomic Physics (Oxford Master Series in Physics) The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism 100 Math Brainteasers (Grade 7, 8, 9, 10). Arithmetic, Algebra and Geometry Brain Teasers, Puzzles, Games and Problems with Solutions: Math olympiad contest problems for elementary and middle schools Problems and Solutions in Quantum Chemistry and Physics (Dover Books on Chemistry) Gauge Theory of Elementary Particle Physics: Problems and Solutions How trace element selenium affects men's health: Discover how selenium can affect: prostate problems, eczema problems, asthma breathing, and 9 other health problems Accelerator Physics: Example Problems With Solutions Diffusion, Atomic Ordering, and Mass Transport: Selected Problems in Geochemistry (Advances in Physical Geochemistry) Student Study Guide & Selected Solutions Manual for Physics for Scientists & Engineers with Modern Physics Vols. 2 & 3 (Chs.21-44) (v. 2 & 3, Chapters 2) Quantum Entanglement in Electron Optics: Generation, Characterization, and Applications (Springer Series on Atomic, Optical, and Plasma Physics) Seismic Hydrocarbon Exploration: 2D and 3D Techniques (Advances in Oil and Gas Exploration & Production)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)