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Floating-point arithmetic is the most widely used way of implementing real-number arithmetic on modern computers. However, making such an arithmetic reliable and portable, yet fast, is a very difficult task. As a result, floating-point arithmetic is far from being exploited to its full potential. This handbook aims to provide a complete

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overview of modern floating-point arithmetic. So that the techniques presented can be put directly into practice in actual coding or design, they are illustrated, whenever possible, by a corresponding program. The handbook is designed for programmers of numerical applications, compiler designers, programmers of floating-point algorithms, designers of arithmetic operators, and more generally, students and researchers in numerical analysis who wish to better understand a tool used in their daily work and

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research.

Problems and Solutions on Thermodynamics and Statistical Mechanics World Scientific Provides fully updated coverage of new experiments in quantum optics This fully revised and expanded edition of a well-established textbook on experiments on quantum optics covers new concepts, results, procedures, and developments in state-of-the-art experiments. It starts with the basic building blocks and ideas of quantum optics, then moves on to detailed procedures and

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new techniques for each experiment. Focusing on metrology, communications, and quantum logic, this new edition also places more emphasis on single photon technology and hybrid detection. In addition, it offers end-of-chapter summaries and full problem sets throughout. Beginning with an introduction to the subject, *A Guide to Experiments in Quantum Optics, 3rd Edition* presents readers with chapters on classical models of light, photons, quantum models of light, as well as basic optical components. It goes on to give

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readers full coverage of lasers and amplifiers, and examines numerous photodetection techniques being used today. Other chapters examine quantum noise, squeezing experiments, the application of squeezed light, and fundamental tests of quantum mechanics. The book finishes with a section on quantum information before summarizing of the contents and offering an outlook on the future of the field. -Provides all new updates to the field of quantum optics, covering the building blocks, models and concepts, latest

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results, detailed procedures, and modern experiments -Places emphasis on three major goals: metrology, communications, and quantum logic -Presents fundamental tests of quantum mechanics (Schrodinger Kitten, multimode entanglement, photon systems as quantum emulators), and introduces the density function -Includes new trends and technologies in quantum optics and photodetection, new results in sensing and metrology, and more coverage of quantum gates and logic, cluster states, waveguides for

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multimodes, discord and other quantum measures, and quantum control -Offers end of chapter summaries and problem sets as new features A Guide to Experiments in Quantum Optics, 3rd Edition is an ideal book for professionals, and graduate and upper level students in physics and engineering science. This new, fully revised edition aims to serve as a guide for agricultural research scientists and other practitioners in writing papers for publication. It also looks to provide a resource manual for training courses in scientific

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writing. There are three new chapters on reporting statistical results, communicating science to non-scientific audiences and electronic publishing. In addition, the original chapters have all been rewritten to reflect current developments and to make the content more complete and easily comprehensible.

Root Ecology

Problems And Solutions On Quantum
Mechanics

Problems and Solutions on Thermodynamics

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and Statistical Mechanics

Management: the Essentials

An Introduction to Quantum Physics

Covers the principles of quantum mechanics and engages those principles in the development of thermodynamics.

Coverage includes the properties of gases, the First Law of Thermodynamics, a molecular interpretation of the principal thermodynamic state functions, solutions, non equilibrium thermodynamics, and electrochemistry.

Features 10-12 worked examples and some 60 problems for each chapter. A separate Solutions Manual is forthcoming in April 1999. Annotation copyrighted by

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Book News, Inc., Portland, OR

Mathematics for Physical Chemistry, Third Edition, is the ideal text for students and physical chemists who want to sharpen their mathematics skills. It can help prepare the reader for an undergraduate course, serve as a supplementary text for use during a course, or serve as a reference for graduate students and practicing chemists. The text concentrates on applications instead of theory, and, although the emphasis is on physical chemistry, it can also be useful in general chemistry courses. The Third Edition includes new exercises in each chapter that provide practice in a technique immediately after

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discussion or example and encourage self-study. The first ten chapters are constructed around a sequence of mathematical topics, with a gradual progression into more advanced material. The final chapter discusses mathematical topics needed in the analysis of experimental data. Numerous examples and problems interspersed throughout the presentations Each extensive chapter contains a preview, objectives, and summary Includes topics not found in similar books, such as a review of general algebra and an introduction to group theory Provides chemistry specific instruction without the distraction of abstract concepts or theoretical issues in

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pure mathematics

Learn classical thermodynamics alongside statistical mechanics and how macroscopic and microscopic ideas interweave with this fresh approach to the subjects.

This book contains a modern selection of about 200 solved problems and examples arranged in a didactic way for hands-on experience with course work in a standard advanced undergraduate/first-year graduate class in thermodynamics and statistical physics. The principles of thermodynamics and equilibrium statistical physics are few and simple, but their application often proves more involved than it may seem at first sight. This book is a

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comprehensive complement to any textbook in the field, emphasizing the analogies between the different systems, and paves the way for an in-depth study of solid state physics, soft matter physics, and field theory.

Student Problems and Solutions Manual for Quantum Chemistry 2e

The Information

A Guide to Experiments in Quantum Optics

A training resource manual

Problems and Solutions to Accompany McQuarrie and Simon, Physical Chemistry: a Molecular Approach
Volume 5.

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The "Manual on Scientific Communication for Postgraduate Students and Young Researchers in Technical, Natural, and Life Sciences" is meant to be a practical guide for the preparation of theses, papers, posters, and other scientific documents. Upon going through the different chapters, the readers should be able to critically search for relevant literature; to correctly define and execute a research topic or project; to correctly write a scientific document; to know the characteristics of the different parts of a MSc degree or PhD degree thesis and a scientific paper; to correctly interpret publishing ethically sensitive material; to understand problems about falsification, fabrication of data, plagiarism, and ranking of authors; and to prepare and present a good

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poster.

If you need a book that relates the core principles of quantum mechanics to modern applications in engineering, physics, and nanotechnology, this is it. Students will appreciate the book's applied emphasis, which illustrates theoretical concepts with examples of nanostructured materials, optics, and semiconductor devices. The many worked examples and more than 160 homework problems help students to problem solve and to practise applications of theory. Without assuming a prior knowledge of high-level physics or classical mechanics, the text introduces Schrödinger's equation, operators, and approximation methods. Systems, including the hydrogen atom and crystalline materials, are analyzed in detail. More

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advanced subjects, such as density matrices, quantum optics, and quantum information, are also covered. Practical applications and algorithms for the computational analysis of simple structures make this an ideal introduction to quantum mechanics for students of engineering, physics, nanotechnology, and other disciplines. Additional resources available from www.cambridge.org/9780521897839.

The material for these volumes has been selected from the past twenty years' examination questions for graduate students at University of California at Berkeley, Columbia University, the University of Chicago, MIT, State University of New York at Buffalo, Princeton University and University of Wisconsin.

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Quantum Mechanics for Scientists and Engineers

Introduction to Statistical Physics

An Integrated Approach

How to Be an Investment Banker

From the bestselling author of the acclaimed Chaos and Genius comes a thoughtful and provocative exploration of the big ideas of the modern era: Information, communication, and information theory. Acclaimed science writer James Gleick presents an eye opening vision of how our relationship to information has transformed the very nature of human

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consciousness. A fascinating intellectual journey through the history of communication and information, from the language of Africa's talking drums to the invention of written alphabets; from the electronic transmission of code to the origins of information theory, into the new information age and the current deluge of news, tweets, images, and blogs. Along the way, Gleick profiles key innovators, including Charles Babbage, Ada Lovelace, Samuel Morse, and Claude Shannon, and reveals how our understanding of information is transforming not only how we look at the world, but how we live. A New

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York Times Notable Book A Los Angeles Times and Cleveland Plain Dealer Best Book of the Year Winner of the PEN/E. O. Wilson Literary Science Writing Award

A comprehensive and engaging textbook, providing a graduate-level, non-historical, modern introduction of quantum mechanical concepts.

A quantum computer is a computer based on a computational model which uses quantum mechanics, which is a subfield of physics to study phenomena at the micro level. There has been a growing interest on quantum computing in the 1990's and some quantum

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computers at the experimental level were recently implemented. Quantum computers enable super-speed computation and can solve some important problems whose solutions were regarded impossible or intractable with traditional computers. This book provides a quick introduction to quantum computing for readers who have no backgrounds of both theory of computation and quantum mechanics. "Elements of Quantum Computing" presents the history, theories and engineering applications of quantum computing. The book is suitable to computer scientists, physicists and software engineers.

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This textbook concentrates on modern topics in statistical physics with an emphasis on strongly interacting condensed matter systems. The book is self-contained and is suitable for beginning graduate students in physics and materials science or undergraduates who have taken an introductory course in statistical mechanics. Phase transitions and critical phenomena are discussed in detail including mean field and Landau theories and the renormalization group approach. The theories are applied to a number of interesting systems such as magnets, liquid crystals, polymers, membranes,

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interacting Bose and Fermi fluids; disordered systems, percolation and spin of equilibrium concepts are also discussed. Computer simulations of condensed matter systems by Monte Carlo-based and molecular dynamics methods are treated.

Mathematics for Physical Chemistry: Opening Doors

Introductory Statistical Mechanics

Solved Problems in Thermodynamics and Statistical
Physics

Molecular Thermodynamics

Smith's Elements of Soil Mechanics

This modern textbook offers an introduction to Quantum

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Mechanics as a theory that underlies the world around us, from atoms and molecules to materials, lasers, and other applications. The main features of the book are: Emphasis on the key principles with minimal mathematical formalism Demystifying discussions of the basic features of quantum systems, using dimensional analysis and order-of-magnitude estimates to develop intuition Comprehensive overview of the key concepts of quantum chemistry and the electronic structure of solids Extensive discussion of the basic processes and applications of light-matter interactions Online supplement with advanced theory, multiple-choice quizzes, etc.

Emphasizes a molecular approach to physical chemistry, discussing principles of quantum mechanics first and then

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using those ideas in development of thermodynamics and kinetics. Chapters on quantum subjects are interspersed with ten math chapters reviewing mathematical topics used in subsequent chapters. Includes material on current physical chemical research, with chapters on computational quantum chemistry, group theory, NMR spectroscopy, and lasers.

Units and symbols used in the text follow IUPAC recommendations. Includes exercises. Annotation copyrighted by Book News, Inc., Portland, OR

This text provides students with concise reviews of mathematical topics that are used throughout physical chemistry. By reading these reviews before the mathematics is applied to physical chemical problems, a student will be able to spend less time worrying about the math and more

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time learning the physical chemistry.

Statistical physics is a core component of most undergraduate (and some post-graduate) physics degree courses. It is primarily concerned with the behavior of matter in bulk—from boiling water to the superconductivity of metals. Ultimately, it seeks to uncover the laws governing random processes, such as the snow on your TV screen. This essential new textbook guides the reader quickly and critically through a statistical view of the physical world, including a wide range of physical applications to illustrate the methodology. It moves from basic examples to more advanced topics, such as broken symmetry and the Bose-Einstein equation. To accompany the text, the author, a renowned expert in the field, has written a Solutions

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Manual/Instructor's Guide, available free of charge to lecturers who adopt this book for their courses. Introduction to Statistical Physics will appeal to students and researchers in physics, applied mathematics and statistics.

Handbook of Floating-Point Arithmetic

With Special Emphasis on Malaria Vectors

Equilibrium Statistical Physics

Molecular Quantum Mechanics

A Practical Approach

Statistical Mechanics discusses the fundamental concepts involved in understanding the physical properties of matter in bulk on the basis of the dynamical behavior of its microscopic constituents. The

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book emphasizes the equilibrium states of physical systems. The text first details the statistical basis of thermodynamics, and then proceeds to discussing the elements of ensemble theory. The next two chapters cover the canonical and grand canonical ensemble. Chapter 5 deals with the formulation of quantum statistics, while Chapter 6 talks about the theory of simple gases. Chapters 7 and 8 examine the ideal Bose and Fermi systems. In the next three chapters, the book covers the statistical mechanics of interacting systems, which includes the method of cluster expansions, pseudopotentials, and quantized fields. Chapter 12

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discusses the theory of phase transitions, while Chapter 13 discusses fluctuations. The book will be of great use to researchers and practitioners from wide array of disciplines, such as physics, chemistry, and engineering. "Atoms First seems to be the flavor of the year in chemistry textbooks, but many of them seem to be little more than rearrangement of the chapters. It takes a master like McQuarrie to go back to the drawing board and create a logical development from smallest to largest that makes sense to students."---Hal Harris, University of Missouri-St. Louis "McQuarrie's book is extremely well written, the order of topics is logical, and it does a

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great job with both introductory material and more advanced concepts. Students of all skill levels will be able to learn from this book."---Mark Kearley, Florida State University This new fourth edition of General Chemistry takes an atoms-first approach from beginning to end. In the tradition of McQuarrie's many previous works, it promises to be another ground-breaking text. This superb new book combines the clear writing and wonderful problems that have made McQuarrie famous among chemistry professors and students worldwide. Presented in an elegant design with all-new illustrations, it is available in a soft-cover edition to offer professors a

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fresh choice at an outstanding value. Student supplements include an online series of descriptive chemistry Interchapters, a Student Solutions Manual, and an optional state-of-the-art Online Homework program. For adopting professors, an Instructor's Manual and a CD of the art are also available.

In the course of evolution, a great variety of root systems have learned to overcome the many physical, biochemical and biological problems brought about by soil. This development has made them a fascinating object of scientific study. This volume gives an overview of how roots have adapted to the soil environment and

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which roles they play in the soil ecosystem. The text describes the form and function of roots, their temporal and spatial distribution, and their turnover rate in various ecosystems. Subsequently, a physiological background is provided for basic functions, such as carbon acquisition, water and solute movement, and for their responses to three major abiotic stresses, i.e. hard soil structure, drought and flooding. The volume concludes with the interactions of roots with other organisms of the complex soil ecosystem, including symbiosis, competition, and the function of roots as a food source.

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The 9th edition maintains the content on all soilmechanics subject areas - groundwater flow, soil physicalproperties, stresses, shear strength, consolidation and settlement,slope stability, retaining walls, shallow and deep foundations,highways, site investigation - but has been expanded to include adetailed explanation of how to use Eurocode 7 for geotechnicaldesign. The key change in this new edition is the expansion of thecontent covering Geotechnical Design to Eurocode 7. Redundantmaterial relating to the now defunct British Standards - no longerreferred to in degree teaching - has been removed. Building on the

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success of the earlier editions, this 9th edition of Smith's Elements of Soil Mechanics brings additional material on geotechnical design to Eurocode 7 in an understandable format. Many worked examples are included to illustrate the processes for performing design to this European standard. Significant updates throughout the book have been made to reflect other developments in procedures and practices in the construction and site investigation industries. More worked examples and many new figures have been provided throughout. The illustrations have been improved and the new design and layout of the pages give

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*a lift. unique content to illustrate the use of Eurocode 7
with essential guidance on how to use the now fully
published code clear content and well-organised
structure takes complicated theories and processes and
presents them in easy-to-understand formats book's
website offers examples and downloads to
further understanding of the use of Eurocode 7 <http://www.wiley.com/go/smith/soil>
[www.wiley.com/go/smith/soil/a](http://www.wiley.com/go/smith/soil)*

*Manual on Environmental Management for Mosquito
Control*

A First Course for Physicists, Chemists, Materials

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Scientists, and Engineers

Scientific writing for agricultural research scientists

The World's Banker

Modern Quantum Mechanics

The detailed solutions manual accompanies the second edition of McQuarrie's Quantum Chemistry.

Intended for upper-level undergraduate and graduate courses in chemistry, physics, mathematics and engineering, this text is also suitable as a reference for advanced students in the physical sciences. Detailed problems and worked examples are included.

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A top-notch resource for anyone who wants to break into the demanding world of investment banking For undergraduates and MBA students, this book offers the perfect preparation for the demanding and rigorous investment banking recruitment process. It features an overview of investment banking and careers in the field, followed by chapters on the core accounting and finance skills that make up the necessary framework for success as a junior investment banker. The book then moves on to address the kind of specific technical interview and recruiting questions that students will encounter in the job search process, making

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this the ideal resource for anyone who wants to enter the field. The ideal test prep resource for undergraduates and MBA students trying to break into investment banking Based on author Andrew Gutmann's proprietary 24 to 30-hour course Features powerful learning tools, including sample interview questions and answers and online resources For anyone who wants to break into investment banking, How to Be an Investment Banker is the perfect career-making guide.

The material for these volumes has been selected from the past twenty years' examination questions for graduate students at

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***the University of California at Berkeley,
Columbia University, the University of Chicago,
MIT, the State University of New York at
Buffalo, Princeton University and the University
of Wisconsin.***

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Elements of Quantum Computing

***International Series of Monographs in Natural
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General Chemistry

Problems and Solutions on Optics

*Robbins Management: The Essentials covers the concepts
essential to management in the 21st century in a fresh,
lively format that's perfectly suited to a typical university*

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semester. The second edition features new and in-depth coverage of sustainability, ethics and corporate social responsibility and new case studies from local and international businesses.

This book explains the ideas and techniques of statistical mechanics-the theory of condensed matter-in a simple and progressive way. The text starts with the laws of thermodynamics and simple ideas of quantum mechanics. The conceptual ideas underlying the subject are explained carefully; the mathematical ideas are developed in parallel to give a coherent overall view. The text is illustrated with examples not just from solid state physics, but also from recent theories of radiation from black holes and recent data on the background radiation from the Cosmic

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background explorer. In this second edition, slightly more advanced material on statistical mechanics is introduced, material which students should meet in an undergraduate course. As a result the new edition contains three more chapters on phase transitions at an appropriate level for an undergraduate student. There are plenty of problems at the end of each chapter, and brief model answers are provided for odd-numbered problems. From reviews of the first edition: '...Introductory Statistical Mechanics is clear and crisp and takes advantage of the best parts of the many approaches to the subject' Physics Today

Never has the World Bank's relief work been more important than in the last nine years, when crises as huge as AIDS and the emergence of terrorist sanctuaries have

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threatened the prosperity of billions. This journalistic masterpiece by Washington Post columnist Sebastian Mallaby charts those controversial years at the Bank under the leadership of James Wolfensohn—the unstoppable power broker whose daring efforts to enlarge the planet's wealth in an age of globalization and terror were matched only by the force of his polarizing personality. Based on unprecedented access to its subject, this captivating tour through the messy reality of global development is that rare triumph—an emblematic story through which a gifted author has channeled the spirit of the age. This edition features a new afterword by the author that analyzes the appointment of Paul Wolfowitz as Wolfensohn's successor at the World bank

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Computer simulation is an essential tool in studying the chemistry and physics of liquids. Simulations allow us to develop models and to test them against experimental data. This book is an introduction and practical guide to the molecular dynamics and Monte Carlo methods.

Statistical Thermodynamics

Thermodynamics and Statistical Mechanics

Mathematics for Physical Chemistry

Computer Simulation of Liquids

History, Theories and Engineering Applications