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*Essential Mathematical Methods for Physicists, ISE* - Hans J. Weber 2004

This new adaptation of Arfken and Weber's bestselling *Mathematical Methods for Physicists*, Fifth Edition, is the most comprehensive, modern, and accessible text for using mathematics to solve physics problems. Additional explanations and examples make it student-friendly and more adaptable to a course syllabus.

**KEY FEATURES:** This is a more accessible version of Arfken and Weber's blockbuster reference, *Mathematical Methods for Physicists*, 5th Edition. Many more detailed, worked-out examples illustrate how to use and apply mathematical techniques to solve physics problems. More frequent and thorough explanations help readers understand, recall, and apply the theory. New introductions and review material provide context and extra support for key ideas. Many more routine problems reinforce basic concepts and computations.

**A Survey of Relaxations and Approximations of the Power Flow Equations** - Daniel K. Molzahn 2019-02

The techniques described in this monograph form the basis of running an optimally efficient modern day power system. It is a must-read for all students and researchers working on the cutting edge of electric power systems.

**Representation Learning for Natural Language Processing** - Zhiyuan Liu 2020-07-03

This open access book provides an overview of the recent advances in representation learning theory, algorithms and applications for natural language processing (NLP). It is divided into three parts. Part I presents the representation learning techniques for multiple language entries, including words, phrases, sentences and documents. Part II then introduces the representation techniques for those objects that are closely related to NLP, including entity-based world knowledge, sememe-based linguistic knowledge, networks, and cross-modal entries. Lastly, Part III provides open resource tools for representation learning techniques, and discusses the remaining challenges and future research directions. The theories and algorithms of representation learning presented can also benefit other related domains such as machine learning, social network analysis, semantic Web, information retrieval, data mining and computational biology. This book is intended for advanced undergraduate and graduate students, post-doctoral fellows, researchers, lecturers, and industrial engineers, as well as anyone interested in representation learning and natural language processing.

*Continuum Mechanics and Plasticity* - Han-Chin Wu 2004-12-20

Tremendous advances in computer technologies and methods have precipitated a great demand for refinements in the constitutive models of plasticity. Such refinements include the development of a model that would account for material anisotropy and produces results that compare well with experimental data. Key to developing such models—and to meeting many other challenges in the field—is a firm grasp of the principles of continuum mechanics and how they apply to the formulation of plasticity theory. Also critical is understanding the experimental aspects of plasticity and material anisotropy. Integrating the traditionally separate subjects of continuum mechanics and plasticity, this book builds understanding in all of those areas. Part I provides systematic, comprehensive coverage of continuum mechanics, from a review of Cartesian tensors to the relevant conservation laws and constitutive equation. Part II offers an exhaustive presentation of the continuum theory of plasticity. This includes a unique treatment of the experimental aspects of plasticity, covers anisotropic plasticity, and incorporates recent research results

related to the endochronic theory of plasticity obtained by the author and his colleagues. By bringing all of these together in one book, *Continuum Mechanics and Plasticity* facilitates the learning of solid mechanics. Its readers will be well prepared for pursuing either research related to the mechanical behavior of engineering materials or developmental work in engineering analysis and design.

*Problems and Solutions on Atomic, Nuclear and Particle Physics* - Yung-Kuo Lim 2000-03-04

This book, part of the seven-volume series *Major American Universities PhD Qualifying Questions and Solutions* contains detailed solutions to 483 questions/problems on atomic, molecular, nuclear and particle physics, as well as experimental methodology. The problems are of a standard appropriate to advanced undergraduate and graduate syllabi, and blend together two objectives — understanding of physical principles and practical application. The volume is an invaluable supplement to textbooks.

*Integral Transforms and Operational Calculus* - H. M. Srivastava 2019-11-20

Researches and investigations involving the theory and applications of integral transforms and operational calculus are remarkably wide-spread in many diverse areas of the mathematical, physical, chemical, engineering and statistical sciences. This Special Issue contains a total of 36 carefully-selected and peer-reviewed articles which are authored by established researchers from many countries. Included in this Special Issue are review, expository and original research articles dealing with the recent advances on the topics of integral transforms and operational calculus as well as their multidisciplinary applications.

*The Chemistry of Inorganic Biomaterials* - Christopher Spicer 2021-08-18

This book overviews the underlying chemistry behind the most common and cutting-edge inorganic materials in current use, or approaching use, in vivo.

**Introduction to Information Retrieval** - Christopher D. Manning 2008-07-07

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

**Data Mining: Concepts and Techniques** - Jiawei Han 2011-06-09

*Data Mining: Concepts and Techniques* provides the concepts and techniques in processing gathered data or information, which will be used in various applications. Specifically, it explains data mining and the tools used in discovering knowledge from the collected data. This book is referred as the knowledge discovery from data (KDD). It focuses on the feasibility, usefulness, effectiveness, and scalability of techniques of large data sets. After describing data mining, this edition explains the methods of knowing, preprocessing, processing, and warehousing data. It then presents information about data warehouses, online analytical processing (OLAP), and data cube technology. Then, the methods involved in mining frequent patterns, associations, and correlations for large data sets are described. The book details the methods for data

classification and introduces the concepts and methods for data clustering. The remaining chapters discuss the outlier detection and the trends, applications, and research frontiers in data mining. This book is intended for Computer Science students, application developers, business professionals, and researchers who seek information on data mining. Presents dozens of algorithms and implementation examples, all in pseudo-code and suitable for use in real-world, large-scale data mining projects Addresses advanced topics such as mining object-relational databases, spatial databases, multimedia databases, time-series databases, text databases, the World Wide Web, and applications in several fields Provides a comprehensive, practical look at the concepts and techniques you need to get the most out of your data

**Global Innovation Index 2020** - Cornell University 2020-08-13

The Global Innovation Index 2020 provides detailed metrics about the innovation performance of 131 countries and economies around the world. Its 80 indicators explore a broad vision of innovation, including political environment, education, infrastructure and business sophistication. The 2020 edition sheds light on the state of innovation financing by investigating the evolution of financing mechanisms for entrepreneurs and other innovators, and by pointing to progress and remaining challenges - including in the context of the economic slowdown induced by the coronavirus disease (COVID-19) crisis.

**Monte Carlo Particle Transport Methods** - I. Lux 2018-05-04

With this book we try to reach several more-or-less unattainable goals namely: To compromise in a single book all the most important achievements of Monte Carlo calculations for solving neutron and photon transport problems. To present a book which discusses the same topics in the three levels known from the literature and gives us useful information for both beginners and experienced readers. It lists both well-established old techniques and also newest findings.

**CUDA by Example** - Jason Sanders 2010-07-19

CUDA is a computing architecture designed to facilitate the development of parallel programs. In conjunction with a comprehensive software platform, the CUDA Architecture enables programmers to draw on the immense power of graphics processing units (GPUs) when building high-performance applications. GPUs, of course, have long been available for demanding graphics and game applications. CUDA now brings this valuable resource to programmers working on applications in other domains, including science, engineering, and finance. No knowledge of graphics programming is required—just the ability to program in a modestly extended version of C. CUDA by Example, written by two senior members of the CUDA software platform team, shows programmers how to employ this new technology. The authors introduce each area of CUDA development through working examples. After a concise introduction to the CUDA platform and architecture, as well as a quick-start guide to CUDA C, the book details the techniques and trade-offs associated with each key CUDA feature. You'll discover when to use each CUDA C extension and how to write CUDA software that delivers truly outstanding performance. Major topics covered include Parallel programming Thread cooperation Constant memory and events Texture memory Graphics interoperability Atomics Streams CUDA C on multiple GPUs Advanced atomics Additional CUDA resources All the CUDA software tools you'll need are freely available for download from NVIDIA.

<http://developer.nvidia.com/object/cuda-by-example.html>

**Neural Engineering** - Bin He 2013-01-09

Neural Engineering, 2nd Edition, contains reviews and discussions of contemporary and relevant topics by leading investigators in the field. It is intended to serve as a textbook at the graduate and advanced undergraduate level in a bioengineering curriculum. This principles and applications approach to neural engineering is essential reading for all academics, biomedical engineers, neuroscientists, neurophysiologists, and industry professionals wishing to take advantage of the latest and greatest in this emerging field.

**The Modelling and Analysis of Security Protocols** - Peter Ryan 2001

An introduction to CSP - Modelling security protocols in CSP - Expressing protocol goals - Overview of FDR - Casper - Encoding protocols and intruders for FDR - Theorem proving - Simplifying transformations - Other approaches - Prospects and wider issues.

**Combinatorial Commutative Algebra** - Ezra Miller 2006-03-30

Recent developments are covered Contains over 100 figures and 250 exercises Includes complete proofs

**Decomposability of Tensors** - Luca Chiantini 2019-02-15

This book is a printed edition of the Special Issue "Decomposability of Tensors" that was published in Mathematics

**Programming Massively Parallel Processors** - David B. Kirk 2012-12-31

Programming Massively Parallel Processors: A Hands-on Approach, Second Edition, teaches students how to program massively parallel processors. It offers a detailed discussion of various techniques for constructing parallel programs. Case studies are used to demonstrate the development process, which begins with computational thinking and ends with effective and efficient parallel programs. This guide shows both student and professional alike the basic concepts of parallel programming and GPU architecture. Topics of performance, floating-point format, parallel patterns, and dynamic parallelism are covered in depth. This revised edition contains more parallel programming examples, commonly-used libraries such as Thrust, and explanations of the latest tools. It also provides new coverage of CUDA 5.0, improved performance, enhanced development tools, increased hardware support, and more; increased coverage of related technology, OpenCL and new material on algorithm patterns, GPU clusters, host programming, and data parallelism; and two new case studies (on MRI reconstruction and molecular visualization) that explore the latest applications of CUDA and GPUs for scientific research and high-performance computing. This book should be a valuable resource for advanced students, software engineers, programmers, and hardware engineers. New coverage of CUDA 5.0, improved performance, enhanced development tools, increased hardware support, and more Increased coverage of related technology, OpenCL and new material on algorithm patterns, GPU clusters, host programming, and data parallelism Two new case studies (on MRI reconstruction and molecular visualization) explore the latest applications of CUDA and GPUs for scientific research and high-performance computing

**Cambridge International A and AS Level Mathematics** - Sophie Goldie 2012-01-01

This brand new series has been written for the University of Cambridge International Examinations course for AS and A Level Mathematics (9709). This title covers the requirements of P1. The authors are experienced examiners and teachers who have written extensively at this level, so have ensured all mathematical concepts are explained using language and terminology that is appropriate for students across the world. Students are provided with clear and detailed worked examples and questions from Cambridge International past papers, so they have the opportunity for plenty of essential exam practice. Each book contains a free CD-ROM which features the unique 'Personal Tutor' and 'Test Yourself' digital resources that will help students revise and reinforce concepts away from the classroom: - With Personal Tutor each student has access to audio-visual, step-by-step support through exam-style questions - The Test Yourself interactive multiple choice questions identify weaknesses and point students in the right direction

**Applied and Computational Statistics** - Sorana D. Bolboacă 2020-01-23

Research without statistics is like water in the sand; the latter is necessary to reap the benefits of the former. This collection of articles is designed to bring together different approaches to applied statistics. The studies presented in this book are a tiny piece of what applied statistics means and how statistical methods find their usefulness in different fields of research from theoretical frames to practical applications such as genetics, computational chemistry, and experimental design. This book presents several applications of the statistics: · A new continuous distribution with five parameters—the modified beta Gompertz distribution; · A method to calculate the p-value associated with the Anderson-Darling statistic; · An approach of repeated measurement designs; · A validated model to predict statement mutations score; · A new family of structural descriptors, called the extending characteristic polynomial (EChP) family, used to express the link between the structure of a compound and its properties. This collection brings together authors from Europe and Asia with a specific contribution to the knowledge in regards to theoretical and applied statistics.

**Numerical Solution of Ordinary Differential Equations** - Kendall Atkinson 2011-10-24

A concise introduction to numerical methods and the mathematical framework needed to understand their performance Numerical Solution of Ordinary Differential Equations presents a complete and easy-to-follow introduction to classical topics in the numerical solution of ordinary differential equations. The book's approach not only explains the presented mathematics, but also helps readers understand how these

numerical methods are used to solve real-world problems. Unifying perspectives are provided throughout the text, bringing together and categorizing different types of problems in order to help readers comprehend the applications of ordinary differential equations. In addition, the authors' collective academic experience ensures a coherent and accessible discussion of key topics, including: Euler's method Taylor and Runge-Kutta methods General error analysis for multi-step methods Stiff differential equations Differential algebraic equations Two-point boundary value problems Volterra integral equations Each chapter features problem sets that enable readers to test and build their knowledge of the presented methods, and a related Web site features MATLAB® programs that facilitate the exploration of numerical methods in greater depth. Detailed references outline additional literature on both analytical and numerical aspects of ordinary differential equations for further exploration of individual topics. Numerical Solution of Ordinary Differential Equations is an excellent textbook for courses on the numerical solution of differential equations at the upper-undergraduate and beginning graduate levels. It also serves as a valuable reference for researchers in the fields of mathematics and engineering.

**AQA A Level Further Maths: Year 2** - Katie Wood 2020-10-08

This Student Book provides full support for the second year of AQA's new specification. Covering both the compulsory content (further pure) and all the optional content (mechanics, statistics and discrete maths), it offers dedicated problem-solving exercises, along with abundant worked examples.

*An Introduction to Measure Theory* - Terence Tao 2021-09-03

This is a graduate text introducing the fundamentals of measure theory and integration theory, which is the foundation of modern real analysis. The text focuses first on the concrete setting of Lebesgue measure and the Lebesgue integral (which in turn is motivated by the more classical concepts of Jordan measure and the Riemann integral), before moving on to abstract measure and integration theory, including the standard convergence theorems, Fubini's theorem, and the Carathéodory extension theorem. Classical differentiation theorems, such as the Lebesgue and Rademacher differentiation theorems, are also covered, as are connections with probability theory. The material is intended to cover a quarter or semester's worth of material for a first graduate course in real analysis. There is an emphasis in the text on tying together the abstract and the concrete sides of the subject, using the latter to illustrate and motivate the former. The central role of key principles (such as Littlewood's three principles) as providing guiding intuition to the subject is also emphasized. There are a large number of exercises throughout that develop key aspects of the theory, and are thus an integral component of the text. As a supplementary section, a discussion of general problem-solving strategies in analysis is also given. The last three sections discuss optional topics related to the main matter of the book.

Drug-like Properties: Concepts, Structure Design and Methods - Li Di 2010-07-26

Of the thousands of novel compounds that a drug discovery project team invents and that bind to the therapeutic target, typically only a fraction of these have sufficient ADME/Tox properties to become a drug product. Understanding ADME/Tox is critical for all drug researchers, owing to its increasing importance in advancing high quality candidates to clinical studies and the processes of drug discovery. If the properties are weak, the candidate will have a high risk of failure or be less desirable as a drug product. This book is a tool and resource for scientists engaged in, or preparing for, the selection and optimization process. The authors describe how properties affect in vivo pharmacological activity and impact in vitro assays.

Individual drug-like properties are discussed from a practical point of view, such as solubility, permeability and metabolic stability, with regard to fundamental understanding, applications of property data in drug discovery and examples of structural modifications that have achieved improved property performance. The authors also review various methods for the screening (high throughput), diagnosis (medium throughput) and in-depth (low throughput) analysis of drug properties. \* Serves as an essential working handbook aimed at scientists and students in medicinal chemistry \* Provides practical, step-by-step guidance on property fundamentals, effects, structure-property relationships, and structure modification strategies \* Discusses improvements in pharmacokinetics from a practical chemist's standpoint

**Algebra** - Michael Artin 2013-09-01

Algebra, Second Edition, by Michael Artin, is ideal for the honors undergraduate or introductory graduate course. The second edition of this classic text incorporates twenty years of feedback and the author's own

teaching experience. The text discusses concrete topics of algebra in greater detail than most texts, preparing students for the more abstract concepts; linear algebra is tightly integrated throughout.

*Feedback Systems* - Karl Johan Åström 2021-02-02

The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

**Notes on Quantum Mechanics** - E. Fermi 1995

**Principles of Astrophysics** - Mervin Williamson 2019-06-11

Astrophysics is a branch of astronomy that uses the principles of physics and chemistry to determine the nature of astronomical objects. Stars, galaxies, the cosmic microwave background, interstellar medium, etc. are studied in astrophysics. The emissions from such astronomical objects are analyzed and their properties of luminosity, temperature, chemical composition and density are also examined. The study of galaxy formation and evolution, dark matter, dark energy, stellar evolution and dynamics, etc. are also within the scope of this field. The approaches to the study of astronomical objects and astronomical phenomena fall under the two categories of observational and theoretical astrophysics. Observations in astrophysics are made by studying the electromagnetic radiation using radio, optical, space-based telescopes, etc. Neutrino and gravitational wave observatories are modern detectors in observational astrophysics. Theoretical astrophysics uses analytical models and numerical simulations to develop a comprehension of space phenomena. This textbook provides comprehensive insights into the field of astrophysics. It elucidates the concepts and innovative models around prospective developments with respect to this area of study. In this book, constant effort has been made to make the understanding of the difficult concepts as easy and informative as possible, for the readers.

Light Scattering by Nonspherical Particles - Michael I. Mishchenko 1999-09-22

There is hardly a field of science or engineering that does not have some interest in light scattering by small particles. For example, this subject is important to climatology because the energy budget for the Earth's atmosphere is strongly affected by scattering of solar radiation by cloud and aerosol particles, and the whole discipline of remote sensing relies largely on analyzing the parameters of radiation scattered by aerosols, clouds, and precipitation. The scattering of light by spherical particles can be easily computed using the conventional Mie theory. However, most small solid particles encountered in natural and laboratory conditions have nonspherical shapes. Examples are soot and mineral aerosols, cirrus cloud particles, snow and frost crystals, ocean hydrosols, interplanetary and cometary dust grains, and microorganisms. It is now well known that scattering properties of nonspherical particles can differ dramatically from those of "equivalent" (e.g., equal-volume or equal-surface-area) spheres. Therefore, the ability to accurately compute or measure light scattering by nonspherical particles in order to clearly understand the effects of particle nonsphericity on light scattering is very important. The rapid improvement of computers and experimental techniques over the past 20 years and the development of efficient numerical approaches have resulted in major advances in this field which have not been

systematically summarized. Because of the universal importance of electromagnetic scattering by nonspherical particles, papers on different aspects of this subject are scattered over dozens of diverse research and engineering journals. Often experts in one discipline (e.g., biology) are unaware of potentially useful results obtained in another discipline (e.g., antennas and propagation). This leads to an inefficient use of the accumulated knowledge and unnecessary redundancy in research activities. This book offers the first systematic and unified discussion of light scattering by nonspherical particles and its practical applications and represents the state-of-the-art of this important research field. Individual chapters are written by leading experts in respective areas and cover three major disciplines: theoretical and numerical techniques, laboratory measurements, and practical applications. An overview chapter provides a concise general introduction to the subject of nonspherical scattering and should be especially useful to beginners and those interested in fast practical applications. The audience for this book will include graduate students, scientists, and engineers working on specific aspects of electromagnetic scattering by small particles and its applications in remote sensing, geophysics, astrophysics, biomedical optics, and optical engineering. The first systematic and comprehensive treatment of electromagnetic scattering by nonspherical particles and its applications Individual chapters are written by leading experts in respective areas Includes a survey of all the relevant literature scattered over dozens of basic and applied research journals Consistent use of unified definitions and notation makes the book a coherent volume An overview chapter provides a concise general introduction to the subject of light scattering by nonspherical particles Theoretical chapters describe specific easy-to-use computer codes publicly available on the World Wide Web Extensively illustrated with over 200 figures, 4 in color

**Cambridge International AS & A Level Mathematics Mechanics** - Sophie Goldie 2018-05-08  
Endorsed by Cambridge Assessment International Education to provide full support for Paper 4 of the syllabus for examination from 2020. Take mathematical understanding to the next level with this accessible series, written by experienced authors, examiners and teachers. - Improve confidence as a mathematician with clear explanations, worked examples, diverse activities and engaging discussion points. - Advance problem-solving, interpretation and communication skills through a wealth of questions that promote higher-order thinking. - Prepare for further study or life beyond the classroom by applying mathematics to other subjects and modelling real-world situations. - Reinforce learning with opportunities for digital practice via links to the Mathematics in Education and Industry's (MEI) Integral platform in the eTextbooks.\* \*To have full access to the eTextbooks and Integral resources you must be subscribed to both Dynamic Learning and Integral. To trial our eTextbooks and/or subscribe to Dynamic Learning, visit: [www.hoddereducation.co.uk/dynamic-learning](http://www.hoddereducation.co.uk/dynamic-learning); to view samples of the Integral resources and/or subscribe to Integral, visit [integralmaths.org/international](http://integralmaths.org/international) Please note that the Integral resources have not been through the Cambridge International endorsement process. This book covers the syllabus content for Mechanics, including forces and equilibrium, kinematics of motion in a straight line, momentum, Newton's laws of motion, and energy, work and power. Available in this series: Five textbooks fully covering the latest Cambridge International AS & A Level Mathematics syllabus (9709) are accompanied by a Workbook, and Student and Whiteboard eTextbooks. Pure Mathematics 1: Student Textbook (ISBN 9781510421721), Student eTextbook (ISBN 9781510420762), Whiteboard eTextbook (ISBN 9781510420779), Workbook (ISBN 9781510421844) Pure Mathematics 2 and 3: Student Textbook (ISBN 9781510421738), Student eTextbook (ISBN 9781510420854), Whiteboard eTextbook (ISBN 9781510420878), Workbook (ISBN 9781510421851) Mechanics: Student Textbook (ISBN 9781510421745), Student eTextbook (ISBN 9781510420953), Whiteboard eTextbook (ISBN 9781510420977), Workbook (ISBN 9781510421837) Probability & Statistics 1: Student Textbook (ISBN 9781510421752), Student eTextbook (ISBN 9781510421066), Whiteboard eTextbook (ISBN 9781510421097), Workbook (ISBN 9781510421875) Probability & Statistics 2: Student Textbook (ISBN 9781510421776), Student eTextbook (ISBN 9781510421158), Whiteboard eTextbook (ISBN 9781510421165), Workbook (9781510421882)

*Problems and Solutions on Mechanics* - Yung-kuo Lim 1994

Newtonian mechanics : dynamics of a point mass (1001-1108) - Dynamics of a system of point masses (1109-1144) - Dynamics of rigid bodies (1145-1223) - Dynamics of deformable bodies (1224-1272) - Analytical mechanics : Lagrange's equations (2001-2027) - Small oscillations (2028-2067) - Hamilton's

canonical equations (2068-2084) - Special relativity (3001-3054).

*Efficient Processing of Deep Neural Networks* - Vivienne Sze 2020-06-24

This book provides a structured treatment of the key principles and techniques for enabling efficient processing of deep neural networks (DNNs). DNNs are currently widely used for many artificial intelligence (AI) applications, including computer vision, speech recognition, and robotics. While DNNs deliver state-of-the-art accuracy on many AI tasks, it comes at the cost of high computational complexity. Therefore, techniques that enable efficient processing of deep neural networks to improve metrics—such as energy-efficiency, throughput, and latency—without sacrificing accuracy or increasing hardware costs are critical to enabling the wide deployment of DNNs in AI systems. The book includes background on DNN processing; a description and taxonomy of hardware architectural approaches for designing DNN accelerators; key metrics for evaluating and comparing different designs; features of the DNN processing that are amenable to hardware/algorithm co-design to improve energy efficiency and throughput; and opportunities for applying new technologies. Readers will find a structured introduction to the field as well as a formalization and organization of key concepts from contemporary works that provides insights that may spark new ideas.

*Harcourt Mathematics 12* - Peter Crippin 2002

*Linear and Nonlinear Waves* - G. B. Whitham 2011-10-18

Now in an accessible paperback edition, this classic work is just as relevant as when it first appeared in 1974, due to the increased use of nonlinear waves. It covers the behavior of waves in two parts, with the first part addressing hyperbolic waves and the second addressing dispersive waves. The mathematical principles are presented along with examples of specific cases in communications and specific physical fields, including flood waves in rivers, waves in glaciers, traffic flow, sonic booms, blast waves, and ocean waves from storms.

*Flow Cytometry and Cell Sorting* - Andreas Radbruch 2013-06-29

The practical aspects of flow cytometry and sorting are emphasized in this book which introduces the beginner to the technology and provides tips and tricks for the advanced user. The clear structure makes it easy to address specific problems fast. The chapters cover the modern applications of these procedures, with emphasis on immunofluorescence (antibody-fluorochrome conjugation, staining principles and data evaluation); the isolation of specific chromosomes, cells and fragile, large particles by magnetic and fluorescence-activated sorting; cellular biochemistry; and the dynamics of proliferation. The methods have been field-tested in recent EMBO courses on flow cytometry.

*Problems and Solutions on Thermodynamics and Statistical Mechanics* - Yung-kuo Lim 1990  
Volume 5.

*Advanced Problems in Mathematics: Preparing for University* - Stephen Siklos 2016-01-25

This book is intended to help candidates prepare for entrance examinations in mathematics and scientific subjects, including STEP (Sixth Term Examination Paper). STEP is an examination used by Cambridge colleges as the basis for conditional offers. They are also used by Warwick University, and many other mathematics departments recommend that their applicants practice on the past papers even if they do not take the examination. Advanced Problems in Mathematics is recommended as preparation for any undergraduate mathematics course, even for students who do not plan to take the Sixth Term Examination Paper. The questions analysed in this book are all based on recent STEP questions selected to address the syllabus for Papers I and II, which is the A-level core (i.e. C1 to C4) with a few additions. Each question is followed by a comment and a full solution. The comments direct the reader's attention to key points and put the question in its true mathematical context. The solutions point students to the methodology required to address advanced mathematical problems critically and independently. This book is a must read for any student wishing to apply to scientific subjects at university level and for anybody interested in advanced mathematics.

*Pelvic Organ Dysfunction in Neurological Disease* - Clare J. Fowler 2010-11-04

Pelvic Organ Dysfunction in Neurological Disease describes the neurological control of human bladder, bowel and sexual function and then details the dysfunctions which may arise as a consequence of various

neurological diseases. Easy to read, the book will be of value to any healthcare professional managing patients in whom pelvic organ functions have been compromised by neurological disease. The book provides a structured approach to present day understanding of the neurological control of pelvic organs and the investigation and management of each type of organ dysfunction. A unique feature of this book is that it addresses the impact of specific neurological disorders on all three functions. The authors have all been associated with the Department of Uro-Neurology at the National Hospital for Neurology and Neurosurgery, London since it was established 20 years ago. This book is a timely review of their accumulated knowledge and the latest literature.

Mathematics Assessment and Evaluation - Thomas A. Romberg 1992-01-01

Are current testing practices consistent with the goals of the reform movement in school mathematics? If not, what are the alternatives? How can authentic performance in mathematics be assessed? These and similar questions about tests and their uses have forced those advocating change to examine the way in

which mathematical performance data is gathered and used in American schools. This book provides recent views on the issues surrounding mathematics tests, such as the need for valid performance data, the implications of the Curriculum and Evaluation Standards for School Mathematics for test development, the identification of valid items and tests in terms of the Standards, the procedures now being used to construct a sample of state assessment tests, gender differences in test taking, and methods of reporting student achievement.

*Holt Physics* - Raymond A. Serway 2006

**Introduction to Random Graphs** - Alan Frieze 2016

The text covers random graphs from the basic to the advanced, including numerous exercises and recommendations for further reading.