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Causality and Chance in Modern Physics Prentice Hall Professional
This revised and updated second edition maintains the content and spirit of the first edition and includes a new chapter, "Recent Experiences", that provides examples of experimental mathematics that have come to light since the publication of the first edition in 2003. For more examples and insights, Experimentation in Mathematics: Computational P
Power System Analysis Springer Science & Business Media
An exploration of the hidden human, emotional, and social dimensions of mathematics Mathematics is often thought of as the coldest expression of pure reason. But few subjects provoke hotter emotions—and inspire more love and hatred—than mathematics. And although math is frequently idealized as floating above the messiness of human life, its story is nothing if not human; often, it is all too human. Loving and Hating Mathematics is about the hidden human, emotional, and social forces that shape mathematics and affect the experiences of students and mathematicians. Written in a lively, accessible style, and filled with gripping stories and anecdotes, Loving and Hating Mathematics brings home the intense pleasures and pains of mathematical life. These stories challenge many myths, including the notions that mathematics is a solitary pursuit and a "young man's game," the belief that mathematicians are emotionally different from other people, and even the idea that to be a great mathematician it helps to be a little bit crazy. Reuben Hersh and Vera John-Steiner tell stories of lives in math from their very beginnings through old age, including accounts of teaching and mentoring, friendships and rivalries, love affairs and marriages, and the experiences of women and minorities in a field that has traditionally been unfriendly to both. Included here are also stories of people for whom mathematics has been an immense solace during times of crisis, war, and even imprisonment—as well as of those rare individuals driven to insanity and even murder by an obsession with math. This is a book for anyone who wants to understand why the most rational of human endeavors is at the same time one of the most emotional.

The Mathematics of Encryption CRC Press

Stock Market Modeling and Forecasting translates experience in system adaptation gained in an engineering context to the modeling of financial markets with a view to improving the capture and understanding of market dynamics. The modeling process is considered as identifying a dynamic system in which a real stock market is treated as an unknown plant and the identification model proposed is tuned by feedback of the matching error. Like a physical system, a financial market exhibits fast and slow dynamics corresponding to external (such as company value and profitability) and internal forces (such as investor sentiment and commodity prices) respectively. The framework presented here, consisting of an internal model and an adaptive filter, is successful at considering both fast and slow market dynamics. A double selection method is efficacious in identifying input factors influential in market movements, revealing them to be both frequency- and market-dependent. The authors present work on both developed and developing markets in the shape of the US, Hong Kong, Chinese and Singaporean stock markets. Results from all these sources demonstrate the efficiency of the model framework in identifying significant influences and the quality of its predictive ability; promising results are also obtained by applying the model framework to the forecasting of major market-turning periods. Having shown that system-theoretic ideas can form the core of a novel and effective basis for stock market analysis, the book is completed by an indication of possible and likely future expansions of the research in this area.

Microbe-Induced Degradation of Pesticides American Mathematical Soc.

In the past four decades, information technology has altered chains of value production, distribution, and information access at a significant rate. These changes, although they have shaken up numerous economic models, have so far not radically challenged the bases of our society. This book addresses our current progress and viewpoints on digital identity management in different fields (social networks, cloud computing, Internet of Things (IoT), with input from experts in computer science, law, economics and sociology. Within this multidisciplinary and scientific context, having crossed analysis on the digital ID issue, it describes the different technical and legal approaches to protect digital identities with a focus on authentication systems, identity federation techniques and privacy preservation solutions. The

limitations of these solutions and research issues in this field are also discussed to further understand the changes that are taking place. - Offers a state of the discussions and work places on the management of digital identities in various contexts, such as social networking, cloud computing and the Internet of Things - Describes the advanced technical and legal measures to protect digital identities - Contains a strong emphasis of authentication techniques, identity federation tools and technical protection of privacy

Communicating Mathematics in the Digital Era Univ of California Press

A fresh look at the role of astrology and alchemy in Renaissance thinking and everyday life.

Vitamin C Springer Science & Business Media

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An Introduction to the Study of Wave Mechanics CRC Press
Handbook for Sound Engineers is the most comprehensive reference available for audio engineers, and is a must read for all who work in audio. With contributions from many of the top professionals in the field, including Glen Ballou on interpretation systems, intercoms, assistive listening, and fundamentals and units of measurement, David Miles Huber on MIDI, Bill Whitlock on audio transformers and preamplifiers, Steve Dove on consoles, DAWs, and computers, Pat Brown on fundamentals, gain structures, and test and measurement, Ray Rayburn on virtual systems, digital interfacing, and preamplifiers, Ken Pohlmann on compact discs, and Dr. Wolfgang Ahnert on computer-aided sound system design and room-acoustical fundamentals for auditoriums and concert halls, the Handbook for Sound Engineers is a must for serious audio and acoustic engineers. The fifth edition has been updated to reflect changes in the industry, including added emphasis on increasingly prevalent technologies such as software-based recording systems, digital recording using MP3, WAV files, and mobile devices. New chapters, such as Ken Pohlmann's Subjective Methods for Evaluating Sound Quality, S. Benjamin Kanters's Hearing Physiology—Disorders—Conservation, Steve Barbar's Surround Sound for Cinema, Doug Jones's Worship Styles in the Christian Church, sit aside completely revamped staples like Ron Baker and Jack Wrightson's Stadiums and Outdoor Venues, Pat Brown's Sound System Design, Bob Cordell's Amplifier Design, Hardy Martin's Voice Evacuation/Mass Notification Systems, and Tom Danley and Doug Jones's Loudspeakers. This edition has been honed to bring you the most up-to-date information in the many aspects of audio engineering.

Mathematicians on Creativity Princeton University Press
There is nothing quite like that feeling you get when you see that look of recognition and enjoyment on your students' faces. Not just the strong ones, but everyone is nodding in agreement during your first explanation of the geometry of directional derivatives. If you have incorporated animated demonstrations into your teaching, you know how effective they can be in eliciting this kind of response. You know the value of giving students vivid moving images to tie to concepts. But learning to make animations generally requires extensive searching through a vast computer algebra system for the pertinent functions. Maple Animation brings together virtually all of the functions and procedures useful in creating sophisticated animations using Maple 7, 8, or 9 and it presents them in a logical, accessible way. The accompanying CD-ROM provides all of the Maple code used in the book, including the code for more than 30 ready-to-use demonstrations. From Newton's method to linear transformations, the complete animations included in this book allow you to use them straight out of the box. Careful explanations of the methods teach you how to implement your own creative ideas. Whether you are a novice or an experienced Maple user, Maple Animation provides the tools and skills to enhance your teaching and your students' enjoyment of the subject through animation.

A Dictionary of Electronics and Electrical Engineering Princeton University Press

Since its first release in 1988, Mathematica has sold over a quarter of a million copies throughout the world, enabling the manipulation of fields of mathematics such as numerics, symbolic algebra, and graphics. This step-by-step guide deals solely with generating computer graphics using the Mathematica software. It is written by an expert in the field, himself an employee of Wolfram Research, Inc., the creators and distributors of the software. Dr. Wickham-Jones is directly involved in all the technical issues and programs relating to the graphics side of the Mathematica package, and is therefore an obvious choice as author of such a publication.

Nuclear Tracks in Solids CRC Press

How quickly can you compute the remainder when dividing by 120143? Why would you even want to compute this? And what does this have to do with cryptography? Modern cryptography lies at the intersection of mathematics and computer sciences, involving number theory, algebra, computational complexity, fast algorithms, and even quantum mechanics. Many people think of codes in terms of spies, but in the information age, highly mathematical codes are used every day by almost everyone, whether at the bank ATM, at the grocery checkout, or at the keyboard when you access your email or purchase products online. This book provides a historical and mathematical tour of cryptography, from classical ciphers to quantum cryptography. The authors introduce just enough mathematics to explore modern encryption methods, with nothing more than basic algebra and some elementary number theory being necessary. Complete expositions are given of the classical ciphers and the attacks on them, along with a detailed description of the famous Enigma system. The public-key system RSA is described, including a complete mathematical proof that it works. Numerous related topics are covered, such as efficiencies of algorithms, detecting and correcting errors, primality testing and digital signatures. The topics and exposition are carefully chosen to highlight mathematical thinking and problem solving. Each chapter ends with a collection of problems, ranging from straightforward applications to more challenging problems that introduce advanced topics. Unlike many books in the field, this book is aimed at a general liberal arts student, but without losing mathematical completeness.

Exploratory Data Analysis with MATLAB Oxford University Press

Praise for the Second Edition: "The authors present an intuitive and easy-to-read book. ... accompanied by many examples, proposed exercises, good references, and comprehensive appendices that initiate the reader unfamiliar with MATLAB." —Adolfo Alvarez Pinto, International Statistical Review
"Practitioners of EDA who use MATLAB will want a copy of this book. ... The authors have done a great service by bringing together so many EDA routines, but their main accomplishment in this dynamic text is providing the understanding and tools to do EDA. —David A Huckaby, MAA Reviews Exploratory Data Analysis (EDA) is an important part of the data analysis process. The methods presented in this text are ones that should be in the toolkit of every data scientist. As computational sophistication has increased and data sets have grown in size and complexity, EDA has become an even more important process for visualizing and summarizing data before making assumptions to generate hypotheses and models. Exploratory Data Analysis with MATLAB, Third Edition presents EDA methods from a computational perspective and uses numerous examples and applications to show how the methods are used in practice. The authors use MATLAB code, pseudo-code, and algorithm descriptions to illustrate the concepts. The MATLAB code for examples, data sets, and the EDA Toolbox are available for download on the book's website. New to the Third Edition Random projections and estimating local intrinsic dimensionality Deep learning autoencoders and stochastic neighbor embedding Minimum spanning tree and additional cluster validity indices Kernel density estimation Plots for visualizing data distributions, such as beanplots and violin plots A chapter on visualizing categorical data

NET Security and Cryptography John Wiley & Sons

This popular dictionary, formerly published as the Penguin Dictionary of Electronics, has been extensively revised and updated, providing more than 5,000 clear, concise, and jargon-free A-Z entries on key terms, theories, and practices in the areas of electronics and electrical science. Topics covered include circuits, power, systems, magnetic devices, control theory, communications, signal processing, and telecommunications, together with coverage of applications areas such as image

processing, storage, and electronic materials. The dictionary is enhanced by dozens of equations and nearly 400 diagrams. It also includes 16 appendices listing mathematical tables and other useful data, including essential graphical and mathematical symbols, fundamental constants, technical reference tables, mathematical support tools, and major innovations in electricity and electronics. More than 50 useful web links are also included with appropriate entries, accessible via a dedicated companion website. A Dictionary of Electronics and Electrical Engineering is the most up-to-date quick reference dictionary available in its field, and is a practical and wide-ranging resource for all students of electronics and of electrical engineering.

Introduction to Cryptography Springer Science & Business Media
A provocative new vision of free market capitalism that achieves liberal ends by libertarian means Can libertarians care about social justice? In *Free Market Fairness*, John Tomasi argues that they can and should. Drawing simultaneously on moral insights from defenders of economic liberty such as F. A. Hayek and advocates of social justice such as John Rawls, Tomasi presents a new theory of liberal justice. This theory, free market fairness, is committed to both limited government and the material betterment of the poor. Unlike traditional libertarians, Tomasi argues that property rights are best defended not in terms of self-ownership or economic efficiency but as requirements of democratic legitimacy. At the same time, he encourages egalitarians concerned about social justice to listen more sympathetically to the claims ordinary citizens make about the importance of private economic liberty in their daily lives. In place of the familiar social democratic interpretations of social justice, Tomasi offers a "market democratic" conception of social justice: free market fairness. Tomasi argues that free market fairness, with its twin commitment to economic liberty and a fair distribution of goods and opportunities, is a morally superior account of liberal justice. Free market fairness is also a distinctively American ideal. It extends the notion, prominent in America's founding period, that protection of property and promotion of real opportunity are indivisible goals. Indeed, according to Tomasi, free market fairness is social justice, American style. Provocative and vigorously argued, *Free Market Fairness* offers a bold new way of thinking about politics, economics, and justice—one that will challenge readers on both the left and right.

Physics by Computer Springer

Cryptology: Classical and Modern, Second Edition proficiently introduces readers to the fascinating field of cryptology. The book

covers classical methods including substitution, transposition, Playfair, ADFGVX, Alberti, Vigenere, and Hill ciphers. It also includes coverage of the Enigma machine, Turing bombe, and Navajo code. Additionally, the book presents modern methods like RSA, ElGamal, and stream ciphers, as well as the Diffie-Hellman key exchange and Advanced Encryption Standard. When possible, the book details methods for breaking both classical and modern methods. The new edition expands upon the material from the first edition which was oriented for students in non-technical fields. At the same time, the second edition supplements this material with new content that serves students in more technical fields as well. Thus, the second edition can be fully utilized by both technical and non-technical students at all levels of study. The authors include a wealth of material for a one-semester cryptology course, and research exercises that can be used for supplemental projects. Hints and answers to selected exercises are found at the end of the book.

Cryptology Springer

Vitamin C is the first book to cover the history, chemistry, biochemistry, and medical importance of vitamin C and is the first to provide an in-depth, interdisciplinary study of this essential and fascinating compound. The book provides a comprehensive and systematic account of the vitamin C story, fully surveying the history of scurvy and how its cure led to the suggestion, discovery, and isolation of the vitamin, later named L-ascorbic acid. It describes in detail the vitamin's structure determination, synthesis and manufacture, and its oxidation products, derivatives and related compounds. Its key biochemical roles are fully categorized and explained, and the medical importance of the vitamin, including the recent use of so-called megadoses, is thoroughly discussed. *Vitamin C* will be of interest to a very wide readership and will provide useful background information and inspiration for students at various levels. It will also be relevant to the interested chemist or lay person, as well as those carrying out research in this area.

Secrets of Nature Harper Perennial

In this classic, David Bohm was the first to offer us his causal interpretation of the quantum theory. *Causality and Chance in Modern Physics* continues to make possible further insight into the meaning of the quantum theory and to suggest ways of extending the theory into new directions.

Neverending Fractions Springer

This title is part of UC Press's Voices Revived program, which commemorates University of California Press's mission to seek out and cultivate the brightest minds and give them voice, reach, and impact. Drawing on a backlist dating to 1893, *Voices Revived*

makes high-quality, peer-reviewed scholarship accessible once again using print-on-demand technology. This title was originally published in 1975.

Mathematics by Experiment American Mathematical Soc.

This book describes a variety of reasons justifying the use of DC transmission as well as the basic concepts and techniques involved in the AC-DC and DC-AC conversion processes.

The HarperCollins Dictionary of Mathematics Computer Science Press, Incorporated

This book focuses on the microbial degradation of endosulfan, lindane, chlorophenols, organochlorine, aldrin, dieldrin, isoproturon and atrazine, etc. which are commonly used in crop fields to kill the pests. Further, it illustrates the role of degradative enzymes, metabolic pathways of degradation, toxicity of metabolites, and the factors regulating the pesticide degradation. In view of persistence of synthetic pesticides, scientists have discovered suitable microbes, such as bacteria, fungi and algae (naturally occurring or genetically engineered) over the years. After successful trials under laboratory and field conditions, these microbes are being used to degrade chemical pesticides in agriculture. As of now 2.56 billion kg of chemical pesticides is used every year to protect agricultural fields against pest attack. These technologies have been found to be highly effective, eco-friendly and cost-effective without disturbing the agro-ecosystems. As this book contains review articles contributed by various researchers from different countries whose work demonstrates recent advances in microbial degradation of pesticides, it will serve as a ready reckoner and also a valuable quick reference guide for scientists, academicians, cultivators and industrialists alike.

Mathematica Graphics Andesite Press

This book introduces the student to numerous modern applications of mathematics in technology. The authors write with clarity and present the mathematics in a clear and straightforward way making it an interesting and easy book to read. Numerous exercises at the end of every section provide practice and reinforce the material in the chapter. An engaging quality of this book is that the authors also present the mathematical material in a historical context and not just the practical one. *Mathematics and Technology* is intended for undergraduate students in mathematics, instructors and high school teachers. Additionally, its lack of calculus centrality as well as a clear indication of the more difficult topics and relatively advanced references make it suitable for any curious individual with a decent command of high school math.