

Introduction Applied Geophysics Burger Vaelid

Complexity of Seismic Time Series: Measurement and Application applies the tools of nonlinear dynamics to seismic analysis, allowing for the revelation of new details in micro-seismicity, new perspectives in seismic noise, and new tools for prediction of seismic events. The book summarizes both advances and applications in the field, thus meeting the needs of both fundamental and practical seismology. Merging the needs of the classical field and the very modern terms of complexity science, this book covers theory and its application to advanced nonlinear time series tools to investigate Earth's vibrations, making it a valuable tool for seismologists, hazard managers and engineers. Covers the topic of Earth's vibrations involving many different aspects of theoretical and observational seismology Identifies applications of advanced nonlinear time series tools for the characterization of these Earth's signals Merges the needs of geophysics with the applications of complexity theory Describes different methodologies to analyze problems, not only in the context of geosciences, but also those associated with different complex systems across disciplines

Lattice-gas cellular automata (LGCA) and lattice Boltzmann models (LBM) are relatively new and promising methods for the numerical solution of nonlinear partial differential equations. The book provides an

introduction for graduate students and researchers. Working knowledge of calculus is required and experience in PDEs and fluid dynamics is recommended. Some peculiarities of cellular automata are outlined in Chapter 2. The properties of various LGCA and special coding techniques are discussed in Chapter 3. Concepts from statistical mechanics (Chapter 4) provide the necessary theoretical background for LGCA and LBM. The properties of lattice Boltzmann models and a method for their construction are presented in Chapter 5.

This title outlines the evidence that ancient life lived on a reduced gravity Earth and how this relates to an increasing mass expanding Earth.

This book is devoted to the mathematical theory of regularization methods and gives an account of the currently available results about regularization methods for linear and nonlinear ill-posed problems. Both continuous and iterative regularization methods are considered in detail with special emphasis on the development of parameter choice and stopping rules which lead to optimal convergence rates.

The Health Care Case

Whole Earth Geophysics

People, Plants & Genes

Exploring the Shallow Subsurface

An Introduction to Planetary Atmospheres

An Introductory Textbook for Geologists and Geophysicists

This book links the latest advances in molecular genetics with the science and history of plant domestication, the evolution of plant breeding, and the implications of our new knowledge for the agriculture of today and the future.

Benford's law states that the leading digits of many data sets are not uniformly distributed from one through nine, but rather exhibit a profound bias. This bias is evident in everything from electricity bills and street addresses to stock prices, population numbers, mortality rates, and the lengths of rivers. Here, Steven Miller brings together many of the world's leading experts on Benford's law to demonstrate the many useful techniques that arise from the law, show how truly multidisciplinary it is, and encourage collaboration. Beginning with the general theory, the contributors explain the prevalence of the bias, highlighting explanations for when systems should and should not follow Benford's law and how quickly such behavior sets in. They go on to discuss important applications in disciplines ranging from accounting and economics to psychology and the natural sciences. The contributors describe how Benford's law has been successfully used to expose fraud in elections, medical tests, tax filings, and financial reports. Additionally, numerous problems, background materials, and technical details are available online to help instructors create courses around the book. Emphasizing common challenges and techniques across the disciplines, this accessible book shows how Benford's law can serve as a productive meeting ground for researchers and practitioners in diverse fields.

Political scientists use models to investigate and illuminate causal mechanisms, generate comparative data, and more. But how do we justify and rationalize the method? Why test predictions from a deductive, and thus truth-preserving, system? Primo and Clarke tackle these central questions in this novel work of methodology.

An Introduction to Applied and Environmental Geophysics, 2nd Edition, describes the rapidly

developing field of near-surface geophysics. The book covers a range of applications including mineral, hydrocarbon and groundwater exploration, and emphasises the use of geophysics in civil engineering and in environmental investigations. Following on from the international popularity of the first edition, this new, revised, and much expanded edition contains additional case histories, and descriptions of geophysical techniques not previously included in such textbooks. The level of mathematics and physics is deliberately kept to a minimum but is described qualitatively within the text. Relevant mathematical expressions are separated into boxes to supplement the text. The book is profusely illustrated with many figures, photographs and line drawings, many never previously published. Key source literature is provided in an extensive reference section; a list of web addresses for key organisations is also given in an appendix as a valuable additional resource. Covers new techniques such as Magnetic Resonance Sounding, Controlled- Source EM, shear-wave seismic refraction, and airborne gravity and EM techniques Now includes radioactivity surveying and more discussions of down-hole geophysical methods; hydrographic and Sub-Bottom Profiling surveying; and Unexploded Ordnance detection Expanded to include more forensic, archaeological, glaciological, agricultural and bio-geophysical applications Includes more information on physio-chemical properties of geological, engineering and environmental materials Takes a fully global approach Companion website with additional resources available at www.wiley.com/go/reynolds/introduction2e Accessible core textbook for undergraduates as well as an ideal reference for industry professionals The second edition is ideal for students wanting a broad introduction to the subject and is also designed for practising civil and geotechnical engineers, geologists, archaeologists and environmental scientists who need an overview of modern geophysical methods relevant to their discipline. While the first edition was the first textbook to provide such a comprehensive coverage of environmental geophysics, the second edition is even more far ranging in

terms of techniques, applications and case histories.

Fundamentals of Geophysical Fluid Dynamics

Just Words

On Speech and Hidden Harm

Karst Management

Applied Multidimensional Geological Modeling

Earthquake and Volcano Deformation is the first textbook to present the mechanical models of earthquake and volcanic processes, emphasizing earth-surface deformations that can be compared with observations from Global Positioning System (GPS) receivers, Interferometric Radar (InSAR), and borehole strain- and tiltmeters. Paul Segall provides the physical and mathematical fundamentals for the models used to interpret deformation measurements near active faults and volcanic centers. Segall highlights analytical methods of continuum mechanics applied to problems of active crustal deformation. Topics include elastic dislocation theory in homogeneous and layered half-spaces, crack models of faults and planar intrusions, elastic fields due to pressurized spherical and ellipsoidal magma chambers, time-dependent deformation resulting from faulting in an elastic layer overlying a viscoelastic half-space and related earthquake cycle models, poroelastic effects due to faulting

and magma chamber inflation in a fluid-saturated crust, and the effects of gravity on deformation. He also explains changes in the gravitational field due to faulting and magmatic intrusion, effects of irregular surface topography and earth curvature, and modern concepts in rate- and state-dependent fault friction. This textbook presents sample calculations and compares model predictions against field data from seismic and volcanic settings from around the world. Earthquake and Volcano Deformation requires working knowledge of stress and strain, and advanced calculus. It is appropriate for advanced undergraduates and graduate students in geophysics, geology, and engineering. Professors: A supplementary Instructor's Manual is available for this book. It is restricted to teachers using the text in courses. For information on how to obtain a copy, refer to:

http://press.princeton.edu/class_use/solutions.html

Introducing the physical principles of rock physics, this upper-level textbook includes problem sets, focus boxes and MATLAB exercises.

This book is designed to introduce the principal geophysical phenomena and techniques--namely seismology, gravity, magnetism, and heat flow--to students whose primary training is in geology and who possess only a basic knowledge of physics. This text is appropriate for a variety of courses including Tectonics, Earthquake Seismology, Earthquake Geology, Reflection Seismology, and

Gravity Interpretation, in addition to courses in Solid Earth Geophysics. Its abundant figures and exercises, combined with the straightforward, concise style of the text, put the essentials of geophysics well within reach of such readers. Offering a chapter on each of the most common methods of exploration, the text explains in detail how each method is performed and discusses that method's geologic, engineering, and environmental applications. In addition to ample examples, illustrations, and applications throughout, each chapter concludes with a problem set. The text is also accompanied by the Field Geophysics Software Suite, an innovative CD-ROM that allows students to experiment with refraction and reflection seismology, gravity, magnetics, electrical resistivity, and ground-penetrating radar methods of exploration."

Selected Papers of J. M. Burgers

Fundamentals of Geophysics

The Story of Crops and Humanity

The Supreme Court's Decision and Its Implications

GSA News & Information

Lattice-Gas Cellular Automata and Lattice Boltzmann Models

This Open Access handbook published at the IAMG's 50th anniversary, presents a compilation of invited path-breaking research contributions

by award-winning geoscientists who have been instrumental in shaping the IAMG. It contains 45 chapters that are categorized broadly into five parts (i) theory, (ii) general applications, (iii) exploration and resource estimation, (iv) reviews, and (v) reminiscences covering related topics like mathematical geosciences, mathematical morphology, geostatistics, fractals and multifractals, spatial statistics, multipoint geostatistics, compositional data analysis, informatics, geocomputation, numerical methods, and chaos theory in the geosciences. This work was published by Saint Philip Street Press pursuant to a Creative Commons license permitting commercial use. All rights not granted by the work's license are retained by the author or authors.

The Supreme Court's decision in the Health Care Case, *NFIB v. Sebelius*, gripped the nation's attention during the spring of 2012. This volume gathers together reactions to the decision from an ideologically diverse selection of the nation's leading scholars of constitutional, administrative, and health law.

J.M. Burgers (1895--1981) is regarded as one of the leading scientists in the field of fluid mechanics, contributing many important results, a number of which still bear his name. However, the work of this outstanding scientist was mostly published in the Proceedings and Transactions of The Royal Netherlands Academy of Sciences, of which he

was a distinguished member. Nowadays, this work is almost impossible to obtain through the usual library channels. Therefore, the editors have decided to reissue the most important work of J.M. Burgers, which gives the reader access to the original papers which led to important results, now known as the Burgers Equation, the Burgers Vector and the Burgers Vortex. Further, the book contains a biography of J.M. Burgers, which provides the reader with both information on his scientific life, as well as a rounded impression of the many activities which J.M. Burgers performed or was involved in outside his science.

The past few decades have witnessed the growth of the Earth Sciences in the pursuit of knowledge and understanding of the planet that we live on. This development addresses the challenging endeavor to enrich human lives with the bounties of Nature as well as to preserve the planet for the generations to come. Solid Earth Geophysics aspires to define and quantify the internal structure and processes of the Earth in terms of the principles of physics and forms the intrinsic framework, which other allied disciplines utilize for more specific investigations. The first edition of the Encyclopedia of Solid Earth Geophysics was published in 1989 by Van Nostrand Reinhold publishing company. More than two decades later, this new volume, edited by Prof. Harsh K. Gupta, represents a thoroughly revised and expanded reference

work. It brings together more than 200 articles covering established and new concepts of Geophysics across the various sub-disciplines such as Gravity, Geodesy, Geomagnetism, Seismology, Seismics, Deep Earth Processes, Plate Tectonics, Thermal Domains, Computational Methods, etc. in a systematic and consistent format and standard. It is an authoritative and current reference source with extraordinary width of scope. It draws its unique strength from the expert contributions of editors and authors across the globe. It is designed to serve as a valuable and cherished source of information for current and future generations of professionals.

Regularization of Inverse Problems

Benford's Law

Measurement and Application

Environmental Life Cycle Assessment (Open Access)

Theory and Applications

Hydrogeophysics

This scholarly text provides an introduction to the numerical methods used to model partial differential equations, with focus on atmospheric and oceanic flows. The book covers both the essentials of building a numerical model and the more sophisticated techniques that are now available. Finite difference methods, spectral methods, finite element method, flux-corrected methods and TVC schemes are all discussed. Throughout, the author keeps to a middle ground

between the theorem-proof formalism of a mathematical text and the highly empirical approach found in some engineering publications. The book establishes a concrete link between theory and practice using an extensive range of test problems to illustrate the theoretically derived properties of various methods. From the reviews: "...the books unquestionable advantage is the clarity and simplicity in presenting virtually all basic ideas and methods of numerical analysis currently actively used in geophysical fluid dynamics." *Physics of Atmosphere and Ocean*

This is the completely revised and updated version of the popular and highly regarded textbook, *Applied Geophysics*. It describes the physical methods involved in exploration for hydrocarbons and minerals, which include gravity, magnetic, seismic, electrical, electromagnetic, radioactivity, and well-logging methods. All aspects of these methods are described, including basic theory, field equipment, techniques of data acquisition, data processing and interpretation, with the objective of locating commercial deposits of minerals, oil, and gas and determining their extent. In the fourteen years or so since the first edition of *Applied Geophysics*, many changes have taken place in this field, mainly as the result of new techniques, better instrumentation, and increased use of computers in the field and in the interpretation of data. The authors describe these changes in considerable detail, including improved methods of solving the inverse problem, specialized seismic methods, magnetotellurics as a practical exploration method, time-domain electromagnetic methods, increased use of gamma-ray spectrometers, and improved well-logging methods and interpretation.

How can a narrative perspective help us advance our understanding of the fundamental problems

of human psychology and better appreciate persons in diverse social and cultural contexts? In *A New Narrative for Psychology*, author Brian Schiff offers researchers and scholars a new way to study and think about people and the goals of psychological understanding today. By providing a challenging critique of contemporary methods and addressing what these approaches to psychological research leave unexplored, Schiff presents readers with a cutting-edge approach for getting at the thorny problem of meaning making in human lives. While serving as a helpful guide for psychology scholars, this volume is also an excellent place to start for readers who might be unfamiliar with narrative psychology. Here, Schiff carefully considers the history of the field and its place within contemporary psychology by offering a fresh and innovative theoretical perspective on narrative as an active interpretative process present in most aspects of our everyday lives. Further, Schiff expertly grounds this research for readers in clear, vivid illustrations of what can be learned from the intensive study of how people narrate their experiences, selves, social relationships, and the world today. *A New Narrative for Psychology* is an invitation to a fascinating conversation about the critical questions of the discipline, the most effective strategies for approaching them, and an exciting glimpse into the future of narrative psychology.

This book poses a question that is deceptive in its simplicity: could international law have been otherwise? Today, there is hardly a serious account left that would consider the path of international law to be necessary, and that would refute the possibility of a different law altogether. But behind every possibility of the past stands a reason why the law developed as it

did. Only with a keen sense of why things turned out the way they did is it possible to argue about how the law could plausibly have turned out differently. The search for contingency in international law is often motivated, as it is in this volume, by a refusal to resign to the present state of affairs. By recovering past possibilities, this volume aims to inform projects of transformative legal change for the future. The book situates that search for contingency theoretically and carries it into practice across many fields, with chapters discussing human rights and armed conflict, migrants and refugees, the sea and natural resources, foreign investments and trade. In doing so, it shows how politically charged questions about contingency have always been.

Fundamentals of Rock Physics

Civil Applications, Fifth Edition

Earthquake and Volcano Deformation

Introduction to Applied Geophysics

An Introduction to Applied and Environmental Geophysics

The Silicon Web

Intermediate/advanced textbook which provides concise and accessible introduction to GFD for broad range of students.

The technology behind computers, fiber optics, and networks did not originate in the minds of engineers attempting to build an Internet. The Internet is a culmination of intellectual work by thousands of minds spanning hundreds of years. We have built concept upon concept and

technology upon technology to arrive at where we are today, in a world constructed of silicon pathways and controlled by silicon processors. From computers to optical communications, The Silicon Web: Physics for the Internet Age explores the core principles of physics that underlie those technologies that continue to revolutionize our everyday lives. Designed for the nonscientist, this text requires no higher math or prior experience with physics. It starts with an introduction to physics, silicon, and the Internet and then details the basic physics principles at the core of the information technology revolution. A third part examines the quantum era, with in-depth discussion of digital memory and computers. The final part moves onto the Internet era, covering lasers, optical fibers, light amplification, and fiber-optic and wireless communication technologies. The relation between technology and daily life is so intertwined that it is impossible to fully understand modern human experience without having at least a basic understanding of the concepts and history behind modern technology, which continues to become more prevalent as well as more ubiquitous. Going beyond the technical, the book also looks at ways in which science has changed the course of history. It clarifies common misconceptions while offering insight on the social impacts of science with an emphasis on information technology. As a pioneering researcher in quantum mechanics of light, author Michael Raymer has made his own significant contributions to contemporary communications technology

The destructive force of earthquakes has stimulated human inquiry since ancient times, yet the scientific study of earthquakes is a surprisingly recent endeavor. Instrumental recordings of earthquakes were not made until the second half of the 19th century, and the primary mechanism for generating seismic waves was not identified until the beginning of the 20th century. From this recent start, a range of laboratory, field, and theoretical investigations have developed into a vigorous new discipline: the science of earthquakes. As a basic science, it provides a comprehensive understanding of earthquake behavior and related phenomena in the Earth and other terrestrial planets. As an applied science, it provides a knowledge base of great practical value for a global society whose infrastructure is built on the Earth's active crust. This book describes the growth and origins of earthquake science and identifies research and data collection efforts that will strengthen the scientific and social contributions of this exciting new discipline.

Mathematical Biology is a richly illustrated textbook in an exciting and fast growing field. Providing an in-depth look at the practical use of math modeling, it features exercises throughout that are drawn from a variety of bioscientific disciplines - population biology, developmental biology, physiology, epidemiology, and evolution, among others. It maintains a consistent level throughout so that graduate students can use it to gain a foothold into this dynamic research area.

Encyclopedia of Solid Earth Geophysics

A New Narrative for Psychology

A Model Discipline

The Ensemble Kalman Filter

Second Revised Edition

APPLYING UML & PATTERNS 3RD EDITION

Completely revised text applies spectral methods to boundary value, eigenvalue, and time-dependent problems, but also covers cardinal functions, matrix-solving methods, coordinate transformations, much more. Includes 7 appendices and over 160 text figures.

This book reviews popular data-assimilation methods, such as weak and strong constraint variational methods, ensemble filters and smoothers. The author shows how different methods can be derived from a common theoretical basis, as well as how they differ or are related to each other, and which properties characterize them, using several examples. Readers will appreciate the included introductory material and detailed derivations in the text, and a supplemental web site.

This new edition of the well-established Kearey and Brooks text is fully updated to reflect the important developments in geophysical methods since the production of the previous edition. The broad scope of previous editions is maintained, with even greater clarity of explanations from the revised text and extensively revised figures. Each of the major geophysical methods is treated systematically developing the theory behind the method and detailing the instrumentation, field data acquisition techniques, data processing and interpretation methods. The practical application of each method to such diverse exploration applications as petroleum, groundwater, engineering, environmental and forensic is shown by case histories. The mathematics required in order to understand the text is purposely kept to a

minimum, so the book is suitable for courses taken in geophysics by all undergraduate students. It will also be of use to postgraduate students who might wish to include geophysics in their studies and to all professional geologists who wish to discover the breadth of the subject in connection with their own work.

Environmental Life Cycle Assessment is a pivotal guide to identifying environmental problems and reducing related impacts for companies and organizations in need of life cycle assessment (LCA). LCA, a unique sustainability tool, provides a framework that addresses a growing demand for practical technological solutions. Detailing each phase of the LCA methodology, this textbook covers the historical development of LCA, presents the general principles and characteristics of LCA, and outlines the corresponding standards for good practice determined by the International Organization for Standardization. It also explains how to identify the critical aspects of an LCA, provides detailed examples of LCA analysis and applications, and includes illustrated problems and solutions with concrete examples from water management, electronics, packaging, automotive, and other industries. In addition, readers will learn how to: Use consistent criteria to realize and evaluate an LCA independently of individual interests Understand the LCA methodology and become familiar with existing databases and methods based on the latest results of international research Analyze and critique a completed LCA Apply LCA methodology to simple case studies Geared toward graduate and undergraduate students studying environmental science and industrial ecology, as well as practicing environmental engineers, and sustainability professionals who want to teach themselves LCA good practices, Environmental Life Cycle Assessment demonstrates how to conduct environmental assessments for products throughout their life cycles. It presents existing methods and recent developments in the growing field of LCA and systematically covers goal and system definition, life cycle inventory, life cycle impact assessment, and

interpretation.

With Applications to Geophysics

Applied Geophysics

Rock Slope Engineering

An Introduction to Geophysical Exploration

Mathematical Biology

Complexity of Seismic Time Series

An Introduction to Applied and Environmental Geophysics John Wiley & Sons

This second edition of Fundamentals of Geophysics has been completely revised and updated, and is the ideal geophysics textbook for undergraduate students of geoscience with an introductory level of knowledge in physics and mathematics. It gives a comprehensive treatment of the fundamental principles of each major branch of geophysics, and presents geophysics within the wider context of plate tectonics, geodynamics and planetary science. Basic principles are explained with the aid of numerous figures and step-by-step mathematical treatments, and important geophysical results are illustrated with examples from the scientific literature. Text-boxes are used for auxiliary explanations and to handle topics of interest for more advanced students. This new edition also includes review questions at the end of each chapter to help assess the reader's understanding of the topics covered and quantitative exercises for more thorough evaluation.

Solutions to the exercises and electronic copies of the figures are available at www.cambridge.org/9780521859028.

Over the past decades, geological survey organizations have digitized their data handling and holdings, unlocking vast amounts of data and information for computer processing. They have undertaken 3-D modeling alongside, and in some cases instead of, conventional geological mapping and begun delivering both data and interpretations to increasingly diverse stakeholder communities. Applied Multidimensional Geological Modeling provides a citable central source that documents the current capabilities and contributions of leading geological survey organization and other practitioners in industry and academia that are producing multidimensional geological models. This book focuses on applications related to human interactions with conditions in the shallow subsurface, within 100-200 m of the surface. The 26 chapters, developed by 100 contributors associated with 37 organizations, discuss topics relevant to any geologist, scientist, engineer, urban planner, or decision maker whose practice includes assessment or planning of underground space.

Planetary atmospheres is a relatively new, interdisciplinary subject that incorporates various areas of the physical and chemical sciences, including geophysics, geophysical fluid dynamics, atmospheric science, astronomy, and

astrophysics. Providing a much-needed resource for this cross-disciplinary field, *An Introduction to Planetary Atmospheres* presents current knowledge on atmospheres and the fundamental mechanisms operating on them. The author treats the topics in a comparative manner among the different solar system bodies—what is known as comparative planetology. Based on an established course, this comprehensive text covers a panorama of solar system bodies and their relevant general properties. It explores the origin and evolution of atmospheres, along with their chemical composition and thermal structure. It also describes cloud formation and properties, mechanisms in thin and upper atmospheres, and meteorology and dynamics. Each chapter focuses on these atmospheric topics in the way classically done for the Earth's atmosphere and summarizes the most important aspects in the field. The study of planetary atmospheres is fundamental to understanding the origin of the solar system, the formation mechanisms of planets and satellites, and the day-to-day behavior and evolution of Earth's atmosphere. With many interesting real-world examples, this book offers a unified vision of the chemical and physical processes occurring in planetary atmospheres. Ancillaries are available at www.ajax.ehu.es/planetary_atmospheres/

On the Possibility of Different Legal Histories

I. An Introduction

Data Assimilation

Nucleation Theory and Applications

Political Science and the Logic of Representations

Rock Slope Engineering covers the investigation, design, excavation and remediation of man-made rock cuts and natural slopes, primarily for civil engineering applications. It presents design information on structural geology, shear strength of rock and ground water, including weathered rock. Slope design methods are discussed for planar, wedge, circular and toppling failures, including seismic design and numerical analysis.

Information is also provided on blasting, slope stabilization, movement monitoring and civil engineering applications. This fifth edition has been extensively up-dated, with new chapters on weathered rock, including shear strength in relation to weathering grades, and seismic design of rock slopes for pseudo-static stability and Newmark displacement. It now includes the use of remote sensing techniques such as LiDAR to monitor slope movement and collect structural geology data. The chapter on numerical analysis has been revised with emphasis on civil applications. The book is written for practitioners working in the fields of transportation, energy and industrial development, and undergraduate and graduate level courses in geological engineering.

We all know that speech can be harmful. But what are the harms and how exactly does the speech in question bring those harms about? Mary Kate McGowan identifies a previously overlooked mechanism by which speech constitutes, rather than merely causes, harm. She argues that speech constitutes harm when it enacts a norm that prescribes that harm. McGowan illustrates this theory by considering many categories of speech including sexist remarks, racist hate speech, pornography, verbal triggers for stereotype threat, micro-aggressions, political dog whistles, slam poetry, and even the hanging of posters. *Just Words* explores a variety of harms - such as oppression, subordination, discrimination, domination, harassment, and marginalization - and ways in which these harms can be remedied.

This ground-breaking work is the first to cover the fundamentals of hydrogeophysics from both the hydrogeological and geophysical perspectives. Authored by leading experts and expert groups, the book starts out by explaining the fundamentals of hydrological characterization, with focus on hydrological data acquisition and measurement analysis as well as geostatistical approaches. The fundamentals of geophysical characterization are then at length, including the geophysical techniques that are often used for hydrogeological characterization. Unlike other books, the geophysical methods and petrophysical discussions presented here emphasize the theory, assumptions, approaches, and interpretations that are particularly important for hydrogeological applications. A

series of hydrogeophysical case studies illustrate hydrogeophysical approaches for mapping hydrological units, estimation of hydrogeological parameters, and monitoring of hydrogeological processes. Finally, the book concludes with hydrogeophysical frontiers, i.e. on emerging technologies and stochastic hydrogeophysical inversion approaches. An overview of recent developments in the field of first-order phase transitions, which may be considered a continuation of the previous work 'Aggregation Phenomena in Complex Systems', covering work done and discussed since then. Each chapter features a different aspect of the field written by international specialists, and covers such topics as nucleation and crystallization kinetic of silicate glasses, nucleation in concentration gradients, the determination of coefficients of emission of nucleation theory, diamonds from vitreous carbon.

Perspectives on Earthquake Science

Finding Simplicity in Complexity

Environmental Modelling

Chebyshev and Fourier Spectral Methods

Living on an Active Earth

Informing Sustainable Human Interactions with the Shallow Subsurface

Larman covers how to investigate requirements, create solutions and then translate d code, showing developers how to make practical use of the most significant recent

developments. A summary of UML notation is included

Focusing specifically on the management of karst environments, this volume draws to world's leading karst experts to provide a vital source for the study and management unique physical setting. Although karst landscapes cover 12% of the Earth's terrain and provide 25% of the world's drinking water, the resource management of karst environments only previously received indirect attention. Through a comprehensive approach, Karst Management focuses on engineering issues associated with surface karst such as quarries, dams, and agriculture, subsurface topics such as the management of groundwater, speleology, cave biota, and geo-archaeology projects. Chapters that focus on karst as an integrated look at IUCN World Heritage sites, national parks, policy and regulation, measuring system disturbance, information management, and public environmental education. The text incorporates the most up-to-date research from leading karst scientists. This volume provides important perspectives for university students, educators, geoengineers, resource managers, and planners who are interested in or work with this unique physical landscape.

Physics for the Internet Age

Numerical Methods for Fluid Dynamics

Dinosaurs and the Expanding Earth

American Journal of Physics

An Introduction

Contingency in International Law