Fundamentals Of Geophysics By William Lowrie

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Field Geophysics SEG Books
Comprehensively describes the principles and applications of 'global' and 'exploration' geophysics for introductory/intermediate university students.
Development Geology Reference Manual Cambridge University Press
This combination of textbook and reference manual provides a comprehensive account of gravity and magnetic methods for exploring the subsurface using surface, marine, airborne and satellite measurements. It describes key current topics and techniques, physical properties of rocks and other earth materials, and digital data analysis methods used to process and interpret anomalies for subsurface information. Each chapter starts with an overview and concludes by listing key concepts to consolidate new learning. An accompanying website presents problem sets and interactive computer-based exercises, providing hands-on experience of processing, modeling and interpreting data. A comprehensive online suite of full-color case histories illustrates the practical utility of modern gravity and magnetic surveys. This is an ideal text for advanced undergraduate and graduate courses and reference text for research academics and professional geophysicists. It is a valuable resource for all those interested in petroleum, engineering, mineral, environmental, geological and archeological exploration of the lithosphere.
A Scholarly Entertainment John Wiley & Sons Incorporated
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.
A Dialogue with the Social Sciences John Wiley & Sons
A fully updated third edition of this classic textbook, containing two new chapters on numerical modelling supported by online MATLAB codes.
Principles and Applications of Enviromagnetics Academic Press
Rifts and passive margins are extremely important for the petroleum industry, as they are areas of high sedimentation and can contain significant oil and gas resources. This book provides a comprehensive understanding of rifts and passive margins as a whole. It synthesises in one volume the existing information devoted to specific aspects of these vitally important hydrocarbon habitats. This collection of state-of-the-art information on the topic facilitates the better use of this knowledge to assess the risks of exploring and operating in these settings and the development of systematic and predictive hydrocarbon screening tools. The book will be invaluable for a broad range of readers, from advanced geology students and researchers to exploration geoscientists to exploration managers exploring for and developing hydrocarbon resources in analogous settings.
Quantitative Structural Geology Academic Press
Fundamentals of GeophysicsCambridge University Press
Practical Gastrointestinal Endoscopy SEG Books
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.
New Theory of the Earth Cambridge University Press
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 Geophysics Cambridge University Press
This book provides a comprehensive introduction to the field ofgeochemistry. The book first lays out the ‘geochemicaltoolbox’: the basic principles and techniques of moderngeochemistry, beginning with a review of thermodynamics andkinetics as they apply to the Earth and its environs. These basicconcepts are then applied to understanding processes in aqueoussystems and the behavior of trace elements in magmaticsystems. Subsequent chapters introduce radiogenic and stableisotope geochemistry and illustrate their application to suchdiverse topics as determining geologic time, ancient climates, andthe diets of prehistoric peoples. The focus then broadens to theformation of the solar system, the Earth, and the elementsthemselves. Then the composition of the Earth itself becomes thetopic, examining the composition of the core, the mantle, and thecrust and exploring how this structure originated. A final chaptercovers organic chemistry, including the origin of fossil fuels andthe carbon cycle’s role in controlling Earth’s climate,both in the geologic past and the rapidly changing present. Geochemistry is essential reading for all earth sciencestudents, as well as for researchers and appliedscientists who require an introduction to the essentialtheory of

geochemistry, and a survey of its applications in theearth and environmental sciences. Additional resources can be found at: ahref="http://www.wiley.com/go/white/geochemistry"www.wiley.com/go/white/geochemistry/a

Introduction to Geophysical Fluid Dynamics Cambridge University Press

For a thorough comprehension of the field of geophysics, we need to understand its origins. Basic Geophysics by Enders Robinson and Dean Clark takes us on a journey that demonstrates how the achievements of our predecessors have paved the way for our modern science. From the ancient Greeks through the Enlightenment to the greats of the contemporary age, the reasoning behind basic principles is explored and clarified. With that foundation, several advanced topics are examined, including: the 3D wave equation; ray tracing and seismic modeling; reflection, refraction, and diffraction; and WKBJ migration. The successful integration of the historical narrative alongside practical analysis of relevant principles makes this book an excellent resource for both novices and professionals, and all readers will gain insight and appreciation for the seismic theory that underlies modern exploration seismology.

Near-surface Geophysics Cambridge University Press

This book focuses on the dynamics of clouds and of precipitating mesoscale meteorological systems. Clouds and precipitating mesoscale systems represent some of the most important and scientifically exciting weather systems in the world. These are the systems that produce torrential rains, severe winds including downburst and tornadoes, hail, thunder and lightning, and major snow storms. Forecasting such storms represents a major challenge since they are too small to be adequately resolved by conventional observing networks and numerical prediction models. * Provides a complete treatment of clouds integrating the analysis of air motions with cloud structure, microphysics, and precipitation mechanics * Describes and explains the basic types of clouds and cloud systems that occur in the atmosphere-fog, stratus, stratocumulus, altocumulus, altostratus, cirrus, thunderstorms, tornadoes, waterspouts, orographically induced clouds, mesoscale convection complexes, hurricanes, fronts, and extratropical cyclones * Summarizes the fundamentals, both observational and theoretical, of atmospheric dynamics, thermodynamics, cloud microphysics, and radar meteorology, allowing each type of cloud to be examined in depth * Integrates the latest field observations, numerical model simulations, and theory * Supplies a theoretical treatment suitable for the advanced undergraduate or graduate level, as well as post-graduate

Fundamentals of Geophysics AAPG

Introduces geophysical methods used to explore for natural resources and to survey earth structure for purposes of geological and engineering knowledge. These methods include seismic refraction and reflection surveying, gravity and magnetic field surveying, electrical resistivity and electromagnetic field surveying, and geophysical well logging. Covers modern field procedures and instruments, as well as data processing and interpretation techniques, including graphical methods. All basic surveying methods are described step-by-step, and illustrated by practical examples. Well illustrated.

Fundamentals of Structural Geology Cambridge University Press

A thoroughly reworked third edition featuring new data acquisition technologies, research developments and computational exercises in Python.

An Introduction to Geological Geophysics John Wiley & Sons

This handy pocket-sized book provides practical information and assistance to anyone engaged in small-scale surveys on the ground. The 3rd edition updates the considerable changes in instrumentation, and far-reaching developments in applications that have occurred since 1996. New sections include details on Ground Penetrating Radar, VLF and CSAMT/MT, GPS navigation, electromagnetic methods of conductivity mapping, capacity coupling, and audiomagnetotellurics (AMT).

An Introductory Textbook for Geologists and Geophysicists Cambridge University Press

Gastrointestinal endoscopy is now mainstream and the focus is nowchanging from developing new techniques to enhancing the efficiencyand quality of fundamental techniques. There are three elements tothis agenda: initial training, continuous quality improvement andpatient empowerment. For the first time, the book is accompanied by two CD-ROMs -featuring video and animation of how to perform the techniques. Thefirst CD-ROM covers the upper GI tract and consists of twosections: (1) the background to instruments and how to get set up,and (2) how to perform diagnostic techniques. The second CD-ROMcovers diagnostic and therapeutic procedures in colonoscopy. Cotton and Williams' book has evolved with each new edition toreflect developments in the field of endoscopy over the last 20years. This fifth edition draws on the vast experience of the authorsand heralds current changes in both endoscopy and publishing. The emerging 'back to basics' attitude of endoscopy opinionformers with regard to the teaching of endoscopy has resulted in amore focused table of contents specifically targeted at newcomersto this specialty.

Introduction to Seismology SEG Books

Theory of the Earth is an interdisciplinary advanced textbook on the origin, composition, and evolution of the Earth's interior: geophysics, geochemistry, dynamics, convection, mineralogy, volcanism, energetics and thermal history. This is the only book on the whole landscape of deep Earth processes which ties together all the strands of the subdisciplines. It is a complete update of Anderson's Theory of the Earth (1989). It includes many new sections and dozens of new figures and tables. As with the original book, this new edition will prove to be a stimulating textbook on advanced courses in geophysics, geochemistry, and planetary science, and supplementary textbook on a wide range of other advanced Earth science courses. It will also be an essential reference and resource for all researchers in the solid Earth sciences.

Storm and Cloud Dynamics Pearson

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 wi.

Basic Geophysics Cambridge University Press

The second edition of Principles of Seismology has been extensively revised and updated to present a modern approach to observation seismology and the theory behind digital seismograms. It includes: a new chapter on Earthquakes, Earth's structure and dynamics; a considerably revised chapter on instrumentation, with new material on processing of modern digital seismograms and a list of website hosting data and seismological software; and 100 end-of-chapter problems. The fundamental physical concepts on which seismic theory is based are explained in full detail with step-by-step development of the mathematical derivations, demonstrating the relationship between motions recorded in digital seismograms and the mechanics of deformable bodies. With chapter introductions and summaries, numerous examples, newly drafted illustrations and new color figures, and an updated bibliography and reference list, this intermediate-level textbook is designed to help students develop the skills to tackle real research problems.

An Introduction to Applied and Environmental Geophysics Cambridge University Press

A symbiosis of a brief description of physical fundamentals of the rock properties (based on typical experimental results and relevant theories and models) with a guide for practical use of different theoretical concepts.

Principles, Practices, and Applications Oxford University Press

A second edition of this classic textbook on fundamental principles of geophysics for geoscience undergraduates.

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