



A Student's Guide to Geophysical Equations

By William Lowrie



A Student's Guide to Geophysical Equations By William Lowrie

The advent of accessible student computing packages has meant that geophysics students can now easily manipulate datasets and gain first-hand modeling experience - essential in developing an intuitive understanding of the physics of the Earth. Yet to gain a more in-depth understanding of physical theory, and to develop new models and solutions, it is necessary to be able to derive the relevant equations from first principles. This compact, handy book fills a gap left by most modern geophysics textbooks, which generally do not have space to derive all of the important formulae, showing the intermediate steps. This guide presents full derivations for the classical equations of gravitation, gravity, tides, earth rotation, heat, geomagnetism and foundational seismology, illustrated with simple schematic diagrams. It supports students through the successive steps and explains the logical sequence of a derivation - facilitating self-study and helping students to tackle homework exercises and prepare for exams.

 [Download A Student's Guide to Geophysical Equations ...pdf](#)

 [Read Online A Student's Guide to Geophysical Equations ...pdf](#)

A Student's Guide to Geophysical Equations

By William Lowrie

A Student's Guide to Geophysical Equations By William Lowrie

The advent of accessible student computing packages has meant that geophysics students can now easily manipulate datasets and gain first-hand modeling experience - essential in developing an intuitive understanding of the physics of the Earth. Yet to gain a more in-depth understanding of physical theory, and to develop new models and solutions, it is necessary to be able to derive the relevant equations from first principles. This compact, handy book fills a gap left by most modern geophysics textbooks, which generally do not have space to derive all of the important formulae, showing the intermediate steps. This guide presents full derivations for the classical equations of gravitation, gravity, tides, earth rotation, heat, geomagnetism and foundational seismology, illustrated with simple schematic diagrams. It supports students through the successive steps and explains the logical sequence of a derivation - facilitating self-study and helping students to tackle homework exercises and prepare for exams.

A Student's Guide to Geophysical Equations By William Lowrie Bibliography

- Sales Rank: #1309002 in Books
- Published on: 2011-06-30
- Released on: 2011-05-26
- Original language: English
- Number of items: 1
- Dimensions: 8.98" h x .63" w x 5.98" l, 1.05 pounds
- Binding: Paperback
- 296 pages

 [Download A Student's Guide to Geophysical Equations ...pdf](#)

 [Read Online A Student's Guide to Geophysical Equations ...pdf](#)

Editorial Review

Review

"The book is concise yet it contains the derivations of many geophysical equations that allow the reader to examine underlying physical assumptions..All in all, this is a good introduction to books dealing with foundations of quantitative geophysics."

Rafael A. Abreu, The Leading Edge

"[This] is one of the most useful little handbooks....It contains a wealth of information in a compact format that is readily accessible and that follows a logical progression....For such a low cost, this book is well worth purchasing."

M.S. Field, CHOICE

"This compact book may turn out to be an extremely useful compendium of the mathematics necessary to equip the modern geophysics graduate student for research."

John Adam, Mathematical Reviews

"Figures are small, simple, and clear, and largely devoted, to illustrating dimensions or coordinate systems relating to the equations under discussion...succeeds as a supplemental work to either a more general introductory textbook (most naturally Lowrie's own Fundamentals of Geophysics, which maintains continuity in mathematical notation) or as an introduction to several more advanced, subject- specific works. As such, it is a worthy addition to the shelf (or eBook reader) of serious students of geophysics, or indeed faculty preparing lecture courses on related subjects."

James Wookey, American Mineralogist

"... a basic resource for anyone who needs to revisit the basic theory of classical geophysics ... I wish this book had been available when I was preparing my own set of geophysics lecture notes ... the fundamental geophysical equations are presented here in an informative and intuitive way, which makes this relatively inexpensive book an excellent investment for any geophysicist's library."

Geological Magazine

About the Author

William Lowrie was born in Hawick, Scotland, and attended the University of Edinburgh, where he graduated in 1960 with first class honors in physics. He achieved a masters degree in geophysics at the University of Toronto and in 1967 a doctorate at the University of Pittsburgh. After two years in the research laboratory of Gulf Oil Company he became a researcher at the Lamont-Doherty Geological Observatory of Columbia University, New York. In 1974 he was elected Professor of Geophysics at the Swiss Federal Institute of Technology in Zürich, Switzerland, where he taught and researched until retirement in 2004. His research in rock magnetism and paleomagnetism consisted of deducing the Earth's magnetic field in the geological past from the magnetizations of dated rocks. The results were applied to the solution of geologic-tectonic problems and to analysis of the polarity history of the geomagnetic field. Professor Lowrie has authored 135 scientific articles, and a second edition of his acclaimed 1997 textbook Fundamentals of Geophysics was published in 2007. He has been President of the European Union of Geosciences (1987-9) and Section President and Council member of the American Geophysical Union (2000-2). He is a Fellow of AGU and a Member of the Academia Europaea.

Users Review

From reader reviews:

Abel Mulholland:

This book untitled A Student's Guide to Geophysical Equations to be one of several books that will best seller in this year, that's because when you read this reserve you can get a lot of benefit onto it. You will easily to buy that book in the book retail outlet or you can order it by using online. The publisher on this book sells the e-book too. It makes you quicker to read this book, as you can read this book in your Smartphone. So there is no reason for your requirements to past this guide from your list.

Linda Wood:

People live in this new time of lifestyle always try and and must have the spare time or they will get large amount of stress from both lifestyle and work. So , whenever we ask do people have time, we will say absolutely indeed. People is human not a robot. Then we request again, what kind of activity have you got when the spare time coming to an individual of course your answer will certainly unlimited right. Then do you ever try this one, reading ebooks. It can be your alternative throughout spending your spare time, the particular book you have read is usually A Student's Guide to Geophysical Equations.

Lindsay Washington:

Reading can called mind hangout, why? Because while you are reading a book specially book entitled A Student's Guide to Geophysical Equations the mind will drift away trough every dimension, wandering in most aspect that maybe mysterious for but surely will become your mind friends. Imaging every word written in a guide then become one form conclusion and explanation that will maybe you never get prior to. The A Student's Guide to Geophysical Equations giving you a different experience more than blown away your mind but also giving you useful info for your better life with this era. So now let us present to you the relaxing pattern is your body and mind is going to be pleased when you are finished looking at it, like winning a sport. Do you want to try this extraordinary paying spare time activity?

Thomas Towne:

You can spend your free time to see this book this e-book. This A Student's Guide to Geophysical Equations is simple to bring you can read it in the park, in the beach, train in addition to soon. If you did not have much space to bring often the printed book, you can buy typically the e-book. It is make you simpler to read it. You can save typically the book in your smart phone. Therefore there are a lot of benefits that you will get when you buy this book.

Download and Read Online A Student's Guide to Geophysical

Equations By William Lowrie #K9BOXNJ7U38

Read A Student's Guide to Geophysical Equations By William Lowrie for online ebook

A Student's Guide to Geophysical Equations By William Lowrie Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read A Student's Guide to Geophysical Equations By William Lowrie books to read online.

Online A Student's Guide to Geophysical Equations By William Lowrie ebook PDF download

A Student's Guide to Geophysical Equations By William Lowrie Doc

A Student's Guide to Geophysical Equations By William Lowrie Mobipocket

A Student's Guide to Geophysical Equations By William Lowrie EPub

K9BOXNJ7U38: A Student's Guide to Geophysical Equations By William Lowrie