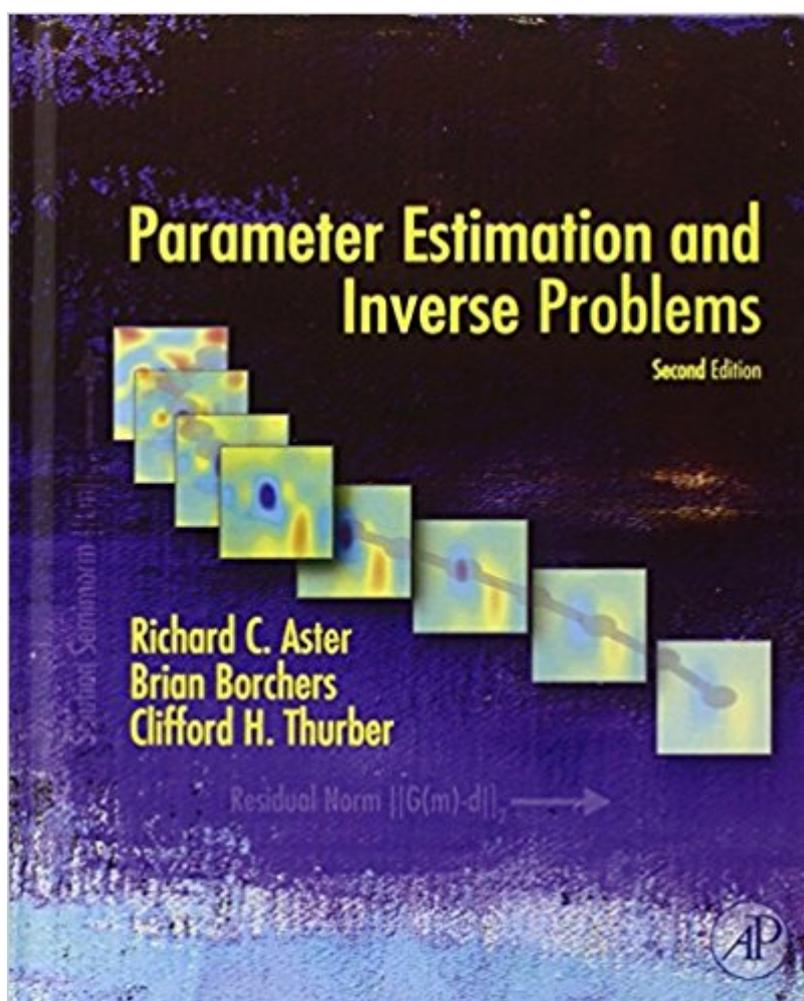


The book was found

Parameter Estimation And Inverse Problems, Second Edition (International Geophysics)



Synopsis

Parameter Estimation and Inverse Problems, 2e provides geoscience students and professionals with answers to common questions like how one can derive a physical model from a finite set of observations containing errors, and how one may determine the quality of such a model. This book takes on these fundamental and challenging problems, introducing students and professionals to the broad range of approaches that lie in the realm of inverse theory. The authors present both the underlying theory and practical algorithms for solving inverse problems. The authors'™ treatment is appropriate for geoscience graduate students and advanced undergraduates with a basic working knowledge of calculus, linear algebra, and statistics. Parameter Estimation and Inverse Problems, 2e introduces readers to both Classical and Bayesian approaches to linear and nonlinear problems with particular attention paid to computational, mathematical, and statistical issues related to their application to geophysical problems. The textbook includes Appendices covering essential linear algebra, statistics, and notation in the context of the subject. A companion website features computational examples (including all examples contained in the textbook) and useful subroutines using MATLAB. Includes appendices for review of needed concepts in linear, statistics, and vector calculus. Companion website contains comprehensive MATLAB code for all examples, which readers can reproduce, experiment with, and modify. Online instructor's™ guide helps professors teach, customize exercises, and select homework problems Accessible to students and professionals without a highly specialized mathematical background.

Book Information

Series: International Geophysics

Hardcover: 376 pages

Publisher: Academic Press; 2 edition (February 4, 2012)

Language: English

ISBN-10: 0123850487

ISBN-13: 978-0123850485

Product Dimensions: 7.7 x 1 x 9.3 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: 4.7 out of 5 stars See all reviews (6 customer reviews)

Best Sellers Rank: #252,370 in Books (See Top 100 in Books) #38 in Books > Science & Math > Earth Sciences > Geophysics #100 in Books > Science & Math > Mathematics > Applied > Differential Equations #255 in Books > Textbooks > Science & Mathematics > Environmental

Customer Reviews

This text was one of two books used for a graduate-level class I attended for students of geophysics. The second textbook was Tarantola's. Positive: The writing is very readable and the book is well organized. Prerequisite knowledge in statistics, linear algebra and vector calculus is summarised in appendices, which include exercises. The exercises throughout the book are well aligned with the difficulty level. Compared to Tarantola, the Aster et al. book is certainly more accessible for the novice, except for those with a background in pure mathematics. In addition to the exposition and exercises, the book also contains worked examples including, and this is a great plus, Matlab code that can be downloaded and run to follow along. The code is well written and comes with utility libraries that can then be used to work examples or even apply to research problems. Neutral: The organisation of the material is very classical, starting with linear problems and treating non-linear problems. Some may prefer it this way. It happens that the class I attended used Aster et al. to cover the background material (ie, the appendices), then proceeded to general inverse problems through iterative methods using Tarantola, and finally returned to Aster to treat the linear case more in-depth. If I had to teach this class, I would probably do something similar and work through general, potentially non-linear problems before linear problems. The language and examples of Aster et al. are geared towards the seismologist or other solid-earth geophysicist, though there are some that allude to tomography. Negative: The only potentially questionable choice is the total reliance on Matlab.

[Download to continue reading...](#)

Parameter Estimation and Inverse Problems, Second Edition (International Geophysics) Applied
Parameter Estimation for Chemical Engineers (Chemical Industries) Detection Estimation and
Modulation Theory, Part I: Detection, Estimation, and Filtering Theory Geotechnical and
Environmental Geophysics (Investigations in Geophysics) Inverse Between Rectangular
Coordinates: Step by Step Guide (Surveying Mathematics Made Simple) (Volume 3) Inverse
Synthetic Aperture Radar Imaging With MATLAB Algorithms Statistical Methods in the Atmospheric
Sciences, Volume 100, Third Edition (International Geophysics) The Lightning Discharge
(International Geophysics Series) Middle Atmosphere Dynamics, Volume 40 (International
Geophysics) Windows 10 Troubleshooting: Windows 10 Manuals, Display Problems, Sound
Problems, Drivers and Software: Windows 10 Troubleshooting: How to Fix Common Problems ...
Tips and Tricks, Optimize Windows 10) Measurement Made Simple with Arduino: 21 different

measurements covers all physical and electrical parameter with code and circuit Vitrinite
Reflectance As a Maturity Parameter: Applications and Limitations (ACS Symposium Series) Design
of Amplifiers and Oscillators by the S-parameter Method The Polysynthesis Parameter (Oxford
Studies in Comparative Syntax) Significant Changes to the International Plumbing Code,
International Mechanical Code and International Fuel Gas Code, 2012 Edition Detection and
Estimation for Communication and Radar Systems Angle of Arrival Estimation Using Radar
Interferometry (Electromagnetics and Radar) Radiation Monitoring and Dose Estimation of the
Fukushima Nuclear Accident Physiological Control Systems: Analysis, Simulation, and Estimation
Exploiting Continuity: Maximum Entropy Estimation of Continuous Distribution (Series on
Econometrics and Management Sciences)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)