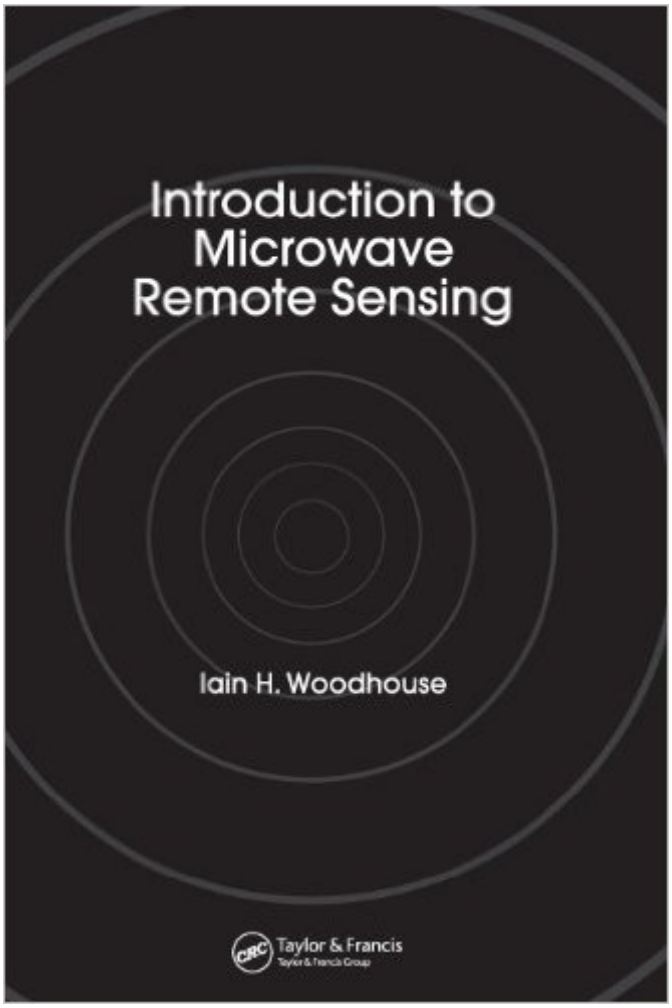
Introduction To Microwave Remote Sensing



Synopsis

Introduction to Microwave Remote Sensing offers an extensive overview of this versatile and extremely precise technology for technically oriented undergraduates and graduate students. This textbook emphasizes an important shift in conceptualization and directs it toward students with prior knowledge of optical remote sensing: the author dispels any linkage between microwave and optical remote sensing. Instead, he constructs the concept of microwave remote sensing by comparing it to the process of audio perception, explaining the workings of the ear as a metaphor for microwave instrumentation. This volume takes an â œapplication-drivenâ • approach. Instead of describing the technology and then its uses, this textbook justifies the need for measurement then explains how microwave technology addresses this need. Following a brief summary of the field and a history of the use of microwaves, the book explores the physical properties of microwaves and the polarimetric properties of electromagnetic waves. It examines the interaction of microwaves with matter, analyzes passive atmospheric and passive surface measurements, and describes the operation of altimeters and scatterometers. The textbook concludes by explaining how high resolution images are created using radars, and how techniques of interferometry can be applied to both passive and active sensors.

Book Information

Hardcover: 400 pages
Publisher: CRC Press; 1 edition (November 2, 2005)
Language: English
ISBN-10: 0415271231
ISBN-13: 978-0415271233
Product Dimensions: 7 x 0.9 x 10 inches
Shipping Weight: 1.9 pounds (View shipping rates and policies)
Average Customer Review: 5.0 out of 5 starsÂ Â See all reviewsÂ (2 customer reviews)
Best Sellers Rank: #1,097,185 in Books (See Top 100 in Books) #239 inÂ Books > Science & Math > Earth Sciences > Geography > Information Systems #240 inÂ Books > Computers & Technology > Graphics & Design > Computer Modelling > Remote Sensing & GIS #3190 inÂ Books > Engineering & Transportation > Engineering > Telecommunications & Sensors

Customer Reviews

I checked this book out from a library at my university. As technical books go, this one is remarkably easy to read and understand. The author presents a detailed, in-depth look at the principles of

microwave remote sensing with interesting examples, humor, and a remarkably clear writing style. All the relevant math equations and physics are given, but the book never loses sight of the practical applications and real-world implications of the equations.

A very nice and readable book with a good level of depth. Mr Woodhouse certainly knows how to teach people.

Introduction to Microwave Remote Sensing Microwave MESFETs and HEMTs (Microwave Library) (Artech House Microwave Library (Hardcover)) Introduction to Remote Sensing, Third Edition Remote Sensing Digital Image Analysis: An Introduction Introduction to Remote Sensing, Fourth Edition An Introduction to Contemporary Remote Sensing Remote Sensing of the Environment An Earth Resource Perspective Remote Sensing of the Environment: An Earth Resource Perspective (2nd Edition) Remote Sensing and Image Interpretation Remote Sensing and Image Interpretation, 7th Edition Principles of GNSS, Inertial, and Multisensor Integrated Navigation Systems, Second Edition (Artech House Remote Sensing Library) Global Environment Remote Sensing (Wave Summit Course) Remote Sensing, Third Edition: Models and Methods for Image Processing Object-Based Image Analysis: Spatial Concepts for Knowledge-Driven Remote Sensing Applications (Lecture Notes in Geoinformation and Cartography) Field Methods in Remote Sensing Digital Processing of Synthetic Aperture Radar Data: Algorithms and Implementation [With CDROM] (Artech House Remote Sensing Library) Spotlight Synthetic Aperture Radar: Signal Processing Algorithms (Artech House Remote Sensing Library) Radiative Transfer in Scattering and Absorbing Atmospheres: Standard Computational Procedures (Studies in geophysical optics and remote sensing) Digital Remote Sensing Datums and Map Projections: For Remote Sensing, GIS and Surveying, Second Edition