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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

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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.

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