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Engineering Applications of the Modulated Scatterer Technique Modern Antennas Electromagnetic Compatibility of Integrated Circuits Computational Methods for Electromagnetic Inverse Scattering Microwave Imaging Methods and Applications Microwave Imaging Nondestructive Characterization of Materials XI Photodiodes The World of Applied Electromagnetics Human Exposure to Electromagnetic Fields Chipless RFID Printing Technologies Electromagnetic Aquametry Analytical Modeling in Applied Electromagnetics Practical Applications of Asymptotic Techniques in Electromagnetics Exposition humaine aux champs électromagnétiques Review of Progress in Quantitative Nondestructive Evaluation Wood and Fiber Science Mathematical Modelling of Wave Phenomena Grid Computing for Electromagnetics Subject Guide to Books in Print Laser Doppler and Phase Doppler Measurement Techniques Microwave Journal Radar Imaging of Airborne Targets Analytical and Computational Methods in Electromagnetics Radar Interferometry Advanced FDTD Methods Multiband Integrated Antennas for 4G Terminals Electromagnetic Modeling of Composite Metallic and Dielectric Structures Switched Parasitic Antennas for Cellular Communications Wavelet Applications in Engineering Electromagnetics Electromagnetic Diffraction Modeling and Simulation with MATLAB High Frequency Electromagnetic Dosimetry Machine Learning Applications in Electromagnetics and Antenna Array Processing Numerical Techniques in Electromagnetics with MATLAB Inverse Synthetic Aperture Radar Imaging With MATLAB Algorithms Radio Techniques for Probing the Terrestrial Ionosphere Middle Atmosphere Program: Ground-based techniques Broadband Microstrip Antennas Geospatial Free and Open Source Software in the 21st Century Numerical Techniques in Electromagnetics, Second Edition

Engineering Applications of the Modulated Scatterer Technique 2001

due to the spectacular growth of electronic systems and the steady demand for new services with increased functionality the development of more efficient measurement techniques has become of paramount importance this practical resource details the cutting edge modulated scatterer technique which offers a low invasive and rapid method for testing and measuring systems and equipment used in a wide range of electronic engineering applications extensively referenced with 125 illustrations and 100 equations

Modern Antennas 2005-12-31

a complete and rigorous treatment of design principles for modern antennas including chapters on signal theory and signal processing antennas radar and polarimetry contains significant new material on antennas for mobile communications to supply a complete picture of antennas for modern radiocommunications applications

Electromagnetic Compatibility of Integrated Circuits 2006-06-04

electromagnetic compatibility of integrated circuits techniques for low emission and susceptibility focuses on the electromagnetic compatibility of integrated circuits the basic concepts theory and an extensive historical review of integrated circuit emission and susceptibility are provided standardized measurement methods are detailed through various case studies emc models for the core i os supply network and packaging are described with applications to conducted switching noise signal integrity near field and radiated noise case studies from different companies and research laboratories are presented with in depth descriptions of the ics test set ups and comparisons between measurements and simulations specific guidelines for achieving low emission and susceptibility derived from the experience of emc experts are presented

Computational Methods for Electromagnetic Inverse Scattering 2018-07-18

a comprehensive and updated overview of the theory algorithms and applications of for electromagnetic inverse scattering problems offers the recent and most important advances in inverse scattering grounded in fundamental theory algorithms and practical engineering applications covers the latest most relevant inverse scattering techniques like signal subspace methods time reversal linear sampling qualitative methods compressive sensing and noniterative methods emphasizes theory mathematical derivation and physical insights of various inverse scattering problems written by a leading expert in the field

Microwave Imaging Methods and Applications 2018-06-30

microwave imaging methods and applications provides practitioners and researchers with a complete overview of the latest and most important noninvasive and nondestructive techniques for inspecting structures and bodies by using microwaves placing emphasis on applications the book considers many areas from medical imaging and security to industrial engineering and subsurface prospection for each application readers are presented with the objectives of the inspection and related challenges moreover this groundbreaking resource details computational methods that can be used to solve inverse problems related to specific applications including clear examples or the most significant practical results this forward looking reference focuses on systems that have been recently developed professionals gain the knowledge needed to compare imaging methods used in different applications and develop new uses of imaging apparatuses and systems

Microwave Imaging 2010-04-27

an introduction to the most relevant theoretical and algorithmic aspects of modern microwave imaging approaches microwave imaging a technique used in sensing a given scene by means of interrogating microwaves has recently proven its usefulness in providing excellent diagnostic capabilities in several areas including civil and industrial engineering nondestructive testing and evaluation geophysical

prospecting and biomedical engineering microwave imaging offers comprehensive descriptions of the most important techniques so far proposed for short range microwave imaging including reconstruction procedures and imaging systems and apparatus enabling the reader to use microwaves for diagnostic purposes in a wide range of applications this hands on resource features a review of the electromagnetic inverse scattering problem formulation written from an engineering perspective and with notations the most effective reconstruction techniques based on diffracted waves including time and frequency domain methods as well as deterministic and stochastic space domain procedures currently proposed imaging apparatus aimed at fast and accurate measurements of the scattered field data insight on near field probes microwave axial tomographs and microwave cameras and scanners a discussion of practical applications with detailed descriptions and discussions of several specific examples e g materials evaluation crack detection inspection of civil and industrial structures subsurface detection and medical applications a look at emerging techniques and future trends microwave imaging is a practical resource for engineers scientists researchers and professors in the fields of civil and industrial engineering nondestructive testing and evaluation geophysical prospecting and biomedical engineering

Nondestructive Characterization of Materials XI 2019-06-12

the papers published in these proceedings represent the latest developments in the nondestructive characterization of materials and were presented at the eleventh international symposium on nondestructive characterization of materials held in june 2002 in berlin germany

Photodiodes 2011-09-06

this book describes different kinds of photodiodes for applications in high speed data communication biomedical sensing high speed measurement uv light detection and high energy physics the photodiodes discussed are composed of several different semiconductor materials such as in p sic and si which cover an extremely wide optical wavelength regime ranging from infrared light to x ray making the suitable for diversified applications several interesting and unique topics were discussed including the operation of high speed photodiodes at low temperature for super conducting electronics photodiodes for bio medical imaging single photon detection photodiodes for the applications in nuclear physics and for uv light detection

The World of Applied Electromagnetics 2017-08-08

this book commemorates four decades of research by professor magdy f iskander life fellow ieee on materials and devices for the radiation propagation scattering and applications of electromagnetic waves chiefly in the mhz thz frequency range as well on electromagnetics education this synopsis of applied electromagnetics stemming from the life and times of just one person is meant to inspire junior researchers and reinvigorate mid level researchers in the electromagnetics community the authors of this book are internationally known researchers including 14 ieee fellows who highlight interesting research and new directions in theoretical experimental and applied electromagnetics

Human Exposure to Electromagnetic Fields 2017-05-12

everyone whether they like it or not is exposed to electromagnetic fields most of the time at very low levels in this case they are inconsequential but they can cause adverse health effects when they become intense enough this topic is complex and sensitive covering frequencies from 0 hz to 300 ghz human exposure to electromagnetic fields provides an overview of this vast topic after a reminder of the concepts of electromagnetic fields the author presents some examples of sources of radiation in daily life and in the industrial or medical sectors the biophysical and biological effects of these fields on the human body are detailed and the exposure limits are recalled the exposure assessment and the implementation of the appropriate regulation within companies are also covered technically and practically this book is aimed at people with a scientific background risk prevention actors health physicians especially occupational doctors and equipment designers

Chipless RFID Printing Technologies 2024-03-31

chipless rfid printing technologies provides a comprehensive overview of advanced chipless rfid communication sensors reader antennas radar cross section and necessity of rfid printing technologies the book describes sensing materials needed for radio frequency identification rfid printing focusing on the design of the passive printable resonators and the signal processing approach used to eliminate the

inaccuracy in detection at the receiver it walks readers through the additive production approaches and suitable substrates for low cost mass manufacturing of digital gadgets consisting of rfid tags such as wireless sensors conductive tags and readers touchpads for keyboards nand show programs packed with numerous sensing strategies utilized in chipless rfid systems the book introduces recent developments in the printing techniques of chipless rfid and their performances in conjunction with many one of a kind advanced features that are critical for low price chipless rfid device implementations broad coverage is given to printable tags for biomedical and wearable applications advanced rfid printing technologies and full technical details about chipless rfid technology not found in other contemporary texts the book presents a unique view of the challenges and future direction of research essential for researchers and research facilities to explore further research in chipless rfid readers will understand the core principles and classical applications of rfid technologies making it an invaluable reference for engineers working on rf and microwave engineering this is also a great resource for researchers currently working in the area as well as graduate students looking to gain knowledge on radio frequency identification

Electromagnetic Aquametry 2006-01-27

information about a material can be gathered from its interaction with electromagnetic waves the information may be stored in the amplitude the phase the polarisation the angular distribution of energy transportation or the spectral characteristics when retrieved from the wave certain material properties may thus be determined indirectly compared on the one hand to direct material analysis an indirect method requires calibration and is prone to interference from undesired sources on the other hand however it permits the determination of features inaccessible by direct methods such as non destructive material interrogation high measurement speed or deep penetration depth however being a physical method the use of electromagnetic waves is still handicapped by the lack of acceptance by many chemists who are used to applying direct approaches historically the first application of electromagnetic wave interaction with matter involved measurement of amplitude changes at a single frequency caused by material properties and it is still used today by some systems this approach was soon supplemented by single frequency phase measurements in order to avoid distortions through amplitude instabilities or parasitic reflections such single parameter measurements of course require dependence only on one variable in the measured process and sufficient stability of all other ancillary conditions if that is not the case the single parameter measurement fails

Analytical Modeling in Applied Electromagnetics 2003

analytical modeling in applied electromagnetics encompasses the most complete treatment on the subject published to date focusing on the nature of models in radio engineering this leading edge resource brings you detailed coverage of the latest topics including metamaterials photonic bandgaps and artificial impedance surfaces and applies these concepts to a wide range of applications the book provides you with working examples that are mainly directed to antenna applications but the modeling methods and results can be used for other practical devices as well

Practical Applications of Asymptotic Techniques in Electromagnetics 2011

antenna wireless communication and other electrical engineers use asymptotic techniques for solving electromagnetic problems when the electrical size of a given scenario is large in comparison to the wavelength this practical book offers in depth coverage of this area showing how to apply these techniques to the analysis of complex electromagnetic problems in order to obtain results with an exceptionally high degree of accuracy focusing on two highly effective methods the uniform theory of diffraction utd and physical optics po this book is unique in that it emphasizes how to solve real world problems rather than simply explaining theory like other books on the market this first of its kind resource show professionals how to apply this knowledge to a wide range of projects in the field including antenna design mobile communications and rcs radar cross section computation this authoritative book is supported with more than 100 illustrations and over 250 equations

Exposition humaine aux champs électromagnétiques 2016-11-01

toute personne qu'elle le veuille ou non est exposée aux champs électromagnétiques la grande majorité du temps ils sont de très faibles niveaux et sans conséquence mais ils peuvent provoquer des effets indésirables sur la santé lorsqu'ils deviennent intenses couvrant les fréquences de 0 hz à 300 ghz

exposition humaine aux champs électromagnétiques offre une vision d'ensemble de ce sujet sensible et complexe après un rappel des notions de champs électromagnétiques il présente quelques exemples de sources de rayonnement de la vie quotidienne et des secteurs industriels ou médicaux les effets biophysiques et biologiques de ces champs sur le corps humain sont détaillés et les limites d'exposition sont rappelées l'évaluation de l'exposition et la mise en place d'une réglementation adaptée au sein des entreprises sont également traitées technique et pratique cet ouvrage s'adresse aux personnes possédant une base scientifique aux acteurs de la prévention du risque aux médecins en particulier ceux du travail et aux concepteurs d'équipements les enseignants y trouveront des applications concrètes permettant d'illustrer leurs cours

Review of Progress in Quantitative Nondestructive Evaluation 2003-04-04

the papers in this proceedings volume were peer reviewed before acceptance the review of progress in quantitative nde has established itself as the world's leading forum for the presentation of research and early engineering demonstrations in quantitative nondestructive evaluation it is international in scope and broadly interdisciplinary in content covering recent developments in measuring techniques ultrasonics electromagnetics x rays thermal acoustic emission etc and their applications to materials characterization and structural integrity

Wood and Fiber Science 1983

this conference series intends to illuminate the relationship between different types of waves this second conference focused primarily on classical wave modeling of acoustic waves in solids and fluids electromagnetic waves as well as elastic wave modeling and both direct and inverse problems are addressed topics included are 1 classical linear wave propagation modeling analysis and computation general electromagnetic applications acoustics of fluids acoustics of solids 2 classical nonlinear wave propagation modeling analysis and computation 3 inverse scattering modeling general and electromagnetic imaging wood imaging seismic imaging 4 quantum and statistical mechanics 5 signal processing and analysis

Mathematical Modelling of Wave Phenomena 2006-05-12

today more and more practitioners researchers and students are utilizing the power and efficiency of grid computing for their increasingly complex electromagnetics applications this cutting edge book offers practical and comprehensive guidance in using this new low cost approach to supercomputing to solve huge numerical electromagnetics problems the book describes how to perform critical data exploration via the in a simple manner build a computational grid for an electromagnetics application and use collaborative engineering to share remote resources online moreover this invaluable reference explains how to use grid computing to explore new electromagnetics applications that can lead to innovative market and research opportunities cd rom included contains all the software needed to build a grid and sample code for several application areas

Grid Computing for Electromagnetics 2004

providing the first comprehensive treatment this book covers all aspects of the laser doppler and phase doppler measurement techniques including light scattering from small particles fundamental optics system design signal and data processing tracer particle generation and applications in single and two phase flows the book is intended as both a reference book for more experienced users as well as an instructional book for students it provides ample material as a basis for a lecture course on the subject and represents one of the most comprehensive treatments of the phase doppler technique to date the book will serve as a valuable reference book in any fluid mechanics laboratory where the laser doppler or phase doppler techniques are used this work reflects the authors long practical experience in the development of the techniques and equipment as the many examples confirm

Subject Guide to Books in Print 1997

radar based imaging of aircraft targets is a topic that continues to attract a lot of attention particularly since these imaging methods have been recognized to be the foundation of any successful all weather non cooperative target identification technique traditional books in this area look at the topic from a radar engineering point of view consequently the basic issues associated with model error and image hazardous materials strategies and tactics

interpretation are usually not addressed in any substantive fashion moreover applied mathematicians frequently find it difficult to read the radar engineering literature because it is jargon laden and device specific meaning that the skills most applicable to the problem s solution are rarely applied enabling an understanding of the subject and its current mathematical research issues radar imaging of airborne targets a primer for applied mathematicians and physicists presents the issues and techniques associated with radar imaging from a mathematical point of view rather than from an instrumentation perspective the book concentrates on scattering issues the inverse scattering problem and the approximations that are usually made by practical algorithm developers the author also explains the consequences of these approximations to the resultant radar image and its interpretation and examines methods for reducing model based error

Laser Doppler and Phase Doppler Measurement Techniques **2013-04-17**

achieve optimal microwave system performance by mastering the principles and methods underlying today s powerful computational tools and commercial software in electromagnetics this authoritative resource offers you clear and complete explanation of this essential electromagnetics knowledge providing you with the analytical background you need to understand such key approaches as mom method of moments fdtd finite difference time domain and fem finite element method and green s functions this comprehensive book includes all math necessary to master the material moreover it features numerous solved problems that help ensure your understanding of key concepts throughout the book

Microwave Journal 2002

this volume is devoted to the persistent scatterer technique the latest development in radar interferometric data processing it is the only book on permanent scatterer ps technique of radar interferometry and it details a newly developed stochastic model and estimator algorithm to cope with possible problems for the application of the ps technique the stun spatio temporal unwrapping network algorithm developed to cope with these issues in a robust way is presented and applied to two test sites

Radar Imaging of Airborne Targets 1999-01-01

advanced fdtd methods parallelization acceleration and engineering applications contents preface chapter 1 computational electromagnetic methods 1 1 fdtd method 1 1 1 fdtd update equations 1 1 2 stability analysis 1 1 3 boundary conditions 1 2 method of moments 1 3 finite element method 1 3 1 scalar formulation 1 3 2 vector formulation 1 4 finite integration technique references chapter 2 fdtd optimization and acceleration 2 1 introduction to cpu architecture 2 2 sse instruction set 2 3 cache optimization 2 4 task parallelization and bundling 2 5 prefetch 2 6 reading or writing combination 2 7 material loop up table 2 8 numa optimization 2 9 implementation of valu fdtd method references chapter 3 parallel fdtd method and systems 3 1 parallel fdtd method 3 2 openmp for multicore processors 3 3 mpi technique 3 4 network card switch and cable references chapter 4 electromagnetic simulation techniques 4 1 mesh generation techniques 4 2 basic simulation procedure 4 3 dipole antenna 4 4 vivaldi antenna simulation 4 5 banded microwave connector 4 6 parallel lines 4 7 two port antenna 4 8 slot coupling 4 9 microwave filter 4 10 optimization and parameter scan 4 11 periodic structure simulation 4 12 ground penetrating radar model 4 13 microwave connector references chapter 5 em simulation software benchmarks 5 1 basic steps in em simulation 5 1 1 hfss 5 1 2 cst 5 1 3 feko 5 1 4 gems 5 2 hardware platforms 5 3 patch antenna 5 4 vivaldi antenna 5 5 scattering of dielectric sphere 5 6 cell phone antenna 5 7 electromagnetic bandgap structure 5 8 standard sar test 5 9 waveguide filter references chapter 6 large multiscale problem solving 6 1 radio frequency protection

Analytical and Computational Methods in Electromagnetics **2008**

the book serves as a comprehensive one stop resource including in depth coverage of multiband integrated antenna design simulation testing and manufacturing this practical book helps you solve integration problems for ever increasing multiband requirements you find discussions on important considerations regarding future handset mimo terminals such as efficiency and the effect of the user the book also shows you how to avoid tweaking for fractal multiband designs and printed dipole design

Radar Interferometry 2006-09-21

annotation this practical new book provides a much wider choice of analytical solutions to problems faced by antenna design engineers and researchers working in electromagnetic modeling based on leading edge method of moments procedures the book presents new theories and techniques that help professionals optimize computer performance in numerical analysis of composite metallic and dielectric structures in the complex frequency domain for the first time comparisons and new combinations of techniques bring the elements of flexibility ease of implementation accuracy and efficiency into clear focus for all practitioners

Advanced FDTD Methods 2011

presenting information typically not found in other books the authors explore the numerous advantages of these antennas including high speed signal acquisition fixed input impedance low loss and small footprint professionals find practical design examples strategies and optimization methods for designing economical switched parasitic antennas for applications such as direction finding and multibeam communications systems cutting edge technologies and applications such as mems rf switches are also discussed jacket

Multiband Integrated Antennas for 4G Terminals 2008

written from an engineering perspective this unique resource describes the practical application of wavelets to the solution of electromagnetic field problems and in signal analysis with an even handed treatment of the pros and cons a key feature of this book is that the wavelet concepts have been described from the filter theory point of view that is familiar to researchers with an electrical engineering background the book shows you how to design novel algorithms that enable you to solve electrically large electromagnetic field problems using modest computational resources it also provides you with new ideas in the design and development of unique waveforms for reliable target identification and practical radar signal analysis the book includes more than 500 equations and covers a wide range of topics from numerical methods to signal processing aspects

Electromagnetic Modeling of Composite Metallic and Dielectric Structures 2002

this exciting new resource presents a comprehensive introduction to the fundamentals of diffraction of two dimensional canonical structures including wedge strip and triangular cylinder with different boundary conditions maxwell equations are discussed along with wave equation and scattered diffracted and fringe fields geometric optics as well as the geometric theory of diffraction are explained with matlab scripts included for several well known electromagnetic diffraction problems this book discusses diffraction fundamentals of two dimensional structures with different boundary conditions and analytical numerical methods that are used to show diffraction the book introduces fundamental concepts of electromagnetic problems identities and definitions for diffraction modeling basic coordinate systems boundary conditions wave equation and green s function problem are given the scattered fields diffracted fields and fringe fields radar cross section for diffraction modeling are presented behaviors of electromagnetic waves around the two dimensional canonical wedge and canonical strip are also explored diffraction of trilateral cylinders and wedges with rounded edges is investigated as well as double tip diffraction using finite difference time domain and method of moments a matlab based virtual tool developed with graphical user interface gui for the visualization of both fringe currents and fringe waves is included using numerical fdtd and mom algorithm and high frequency asymptotics approaches

Switched Parasitic Antennas for Cellular Communications 2002

along with the growth of rf and microwave technology applications there is a mounting concern about the possible adverse effects over human health from electromagnetic radiation addressing this issue and putting it into perspective this groundbreaking resource provides critical details on the latest advances in high frequency electromagnetic dosimetry the book takes a scientific and rigorous engineering point of view helping you achieve highly accurate exposure assessments

Wavelet Applications in Engineering Electromagnetics 2002

this practical resource provides an overview of machine learning ml approaches as applied to electromagnetics and antenna array processing detailed coverage of the main trends in ml including uniform and random array processing beamforming and detection of angle of arrival antenna optimization wave propagation remote sensing radar and other aspects of electromagnetic design are explored an introduction to machine learning principles and the most common machine learning architectures and algorithms used today in electromagnetics and other applications is presented including basic neural networks gaussian processes support vector machines kernel methods deep learning convolutional neural networks and generative adversarial networks applications in electromagnetics and antenna array processing that are solved using machine learning are discussed including antennas remote sensing and target classification

Electromagnetic Diffraction Modeling and Simulation with MATLAB 2021-02-28

despite the dramatic growth in the availability of powerful computer resources the em community lacks a comprehensive text on the computational techniques used to solve em problems the first edition of numerical techniques in electromagnetics filled that gap and became the reference of choice for thousands of engineers researchers and students this third edition of the bestselling text reflects the continuing increase in awareness and use of numerical techniques and incorporates advances and refinements made in recent years most notable among these are the improvements made to the standard algorithm for the finite difference time domain ftdt method and treatment of absorbing boundary conditions in ftdt finite element and transmission line matrix methods the author also has added a chapter on the method of lines numerical techniques in electromagnetics with matlab third edition continues to teach readers how to pose numerically analyze and solve em problems to give them the ability to expand their problem solving skills using a variety of methods and to prepare them for research in electromagnetism now the third edition goes even further toward providing a comprehensive resource that addresses all of the most useful computation methods for em problems and includes matlab code instead of fortran

High Frequency Electromagnetic Dosimetry 2009

this book provides a full representation of inverse synthetic aperture radar isar imagery which is a popular and important radar signal processing tool the book covers all possible aspects of isar imaging the book offers a fair amount of signal processing techniques and radar basics before introducing the inverse problem of isar and the forward problem of synthetic aperture radar sar important concepts of sar such as resolution pulse compression and image formation are given together with associated matlab codes after providing the fundamentals for isar imaging the book gives the detailed imaging procedures for isar imaging with associated matlab functions and codes to enhance the image quality in isar imaging several imaging tricks and fine tuning procedures such as zero padding and windowing are also presented finally various real applications of isar imagery like imaging the antenna platform scattering are given in a separate chapter for all these algorithms matlab codes and figures are included the final chapter considers advanced concepts and trends in isar imaging

Machine Learning Applications in Electromagnetics and Antenna Array Processing 2021-04-30

in the years since the pioneering efforts of sir edward appleton m a f barnett g breit and m a thve many radio techniques have been employed to investigate the terrestrial ionosphere the purposes of this book are to exam ine the basic physical interaction process of radio waves with the ionosphere scrutinize each of the radio techniques currently in use and describe the elements of each technique as well as assess their capabilities and limitations i have included some of the history of each technique since we often tend to forget the efforts of the pioneers the interaction of radio waves with the terrestrial ionosphere has been described in considerable detail in several classic treatments e g ratcliffe 1959 al pert 1963 Budden 1961 and davies 1965 rishbeth and e g flock 1979 davies garriott 1969 and in other more recent books 1990 hargreaves 1979 and Budden 1985 a few of the radio techniques have been described by hargreaves 1979 and a book by giraud and petit 1978 has also included discussion of several of the techniques the wits handbook no 2 1989 also contains description of several radio techniques

Numerical Techniques in Electromagnetics with MATLAB **2018-10-08**

annotation microstrip antennas are lightweight and small volume can be made conformal to the host surface and are manufactured using printed circuit technology so can be mass produced at low cost but alas say kumar and ray indian institute of technology bombay their use has been restricted by their inherently narrow bandwidth over the past few decades however reports have surfaced of broadband configurations and they detail the most promising compiling material from scattered journals conference proceedings and books they explain concepts of several techniques and describe examples without bogging down in mathematical detail annotation copyrighted by book news inc portland or

Inverse Synthetic Aperture Radar Imaging With MATLAB Algorithms **2012-03-13**

this book contains papers presented at the first open source geospatial research symposium held in nantes city france 8 10 july 2009 it brings together insights and ideas in the fields of geospatial information and geoinformatics it demonstrates the scientific community dynamism related to open source and free software as well as in defining new concepts standards or tools

Radio Techniques for Probing the Terrestrial Ionosphere **2013-03-07**

as the availability of powerful computer resources has grown over the last three decades the art of computation of electromagnetic em problems has also grown exponentially despite this dramatic growth however the em community lacked a comprehensive text on the computational techniques used to solve em problems the first edition of numerical techniques in electromagnetics filled that gap and became the reference of choice for thousands of engineers researchers and students the second edition of this bestselling text reflects the continuing increase in awareness and use of numerical techniques and incorporates advances and refinements made in recent years most notable among these are the improvements made to the standard algorithm for the finite difference time domain fdtd method and treatment of absorbing boundary conditions in fdtd finite element and transmission line matrix methods the author also added a chapter on the method of lines numerical techniques in electromagnetics continues to teach readers how to pose numerically analyze and solve em problems give them the ability to expand their problem solving skills using a variety of methods and prepare them for research in electromagnetism now the second edition goes even further toward providing a comprehensive resource that addresses all of the most useful computation methods for em problems

Middle Atmosphere Program: Ground-based techniques **1981**

Broadband Microstrip Antennas **2002-10-31**

Geospatial Free and Open Source Software in the 21st Century **2012-02-22**

Numerical Techniques in Electromagnetics, Second Edition **2000-07-12**

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