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KEY=DESIGNERS - MCGEE SEMAJ

MICROSTRIP PATCH ANTENNAS: A DESIGNER’S GUIDE

Springer Science & Business Media This useful tool provides the reader with a current overview of where microstrip patch antenna technology is at, and useful information on how to design this form of radiator for their given application and scenario. Practical design cases are provided for each goal.

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MICROSTRIP PATCH ANTENNAS (SECOND EDITION)

World Scientific Microstrip patch antennas have become the favorite of antenna designers because of their versatility and having the advantages of planar profile, ease of fabrication, compatibility with integrated circuit technology, and conformability with a shaped surface. There is a need for graduate students and practicing engineers to gain an in depth understanding of this subject. The first edition of this book, published in 2011, was written with this purpose in mind. This second edition contains approximately one third new materials. The authors, Prof KF Lee, Prof KM Luk and Dr HW Lai, have all made significant contributions in the field. Prof Lee and Prof Luk are IEEE Fellows. Prof Lee was the recipient of the 2009 John Kraus Antenna Award of the IEEE Antennas and Propagation Society while Prof. Luk receives the same award in 2017, both in recognition of their contributions to wideband microstrip antennas.

MODERN ANTENNA DESIGN

John Wiley & Sons A practical book written for engineers who design and useantennas The author has many years of hands on experience designingantennas that were used in such applications as the Venus and Marsmissions of NASA The book covers all important topics of modern antenna designfor communications Numerical methods will be included but only as much as areneeded for practical applications

MICROSTRIP ANTENNA DESIGN FOR WIRELESS APPLICATIONS

CRC Press This book focuses on recent advances in the field of microstrip antenna design and its applications in various fields including space communication, mobile communication, wireless communication, medical implants and wearable applications. Scholars as well as researchers and those in the electronics/ electrical/ instrumentation engineering fields will benefit from this book. The book shall provides the necessary literature and techniques using which to assist students and researchers would design antennas for the above- mentioned applications and will ultimately enable users to take measurements in different environments. It is intended to help scholars and researchers in their studies, by enhancing their the knowledge and skills in on the latest applications of microstrip antennas in the world of communications such as world like IoT, D2D, satellites and wearable devices, to name a few. FEATURES Addresses the complete functional framework workflow in printed antenna design systems Explores the basic and high-level concepts, including advanced aspects in planer design issues, thus serving as a manual for those in the the industry while also assisting beginners Provides the latest techniques used for antennas in terms of structure, defected ground, MIMO and fractal designs Discusses case studies related to data-intensive technologies in microchip antennas in terms of the most recent applications and similar uses for the Internet of Things and device-to-device communication

MICROSTRIP AND PRINTED ANTENNAS: APPLICATIONS-BASED DESIGNS

Artech House This comprehensive resource presents antenna fundamentals balanced with the design of printed antennas. Over 70 antenna projects, along with design dimensions, design flows and antenna performance results are discussed, including antennas for wireless communication, 5G antennas and beamforming. Examples of smartphone antennas, MIMO antennas, aerospace and satellite remote sensing array antennas, automotive antennas and radar systems and many more printed antennas for various applications are also included. These projects include design dimensions and parameters that incorporate the various techniques used by industries and academia. This book is intended to serve as a practical microstrip and printed antenna design guide to cover various real-world applications. All Antenna projects discussed in this book are designed, analyzed and simulated using full-wave electromagnetic solvers. Based on several years of the author’s research in antenna design and development for RF and microwave applications, this book offers an in-depth coverage of practical printed antenna design methodology for modern applications.

RECONFIGURABLE ANTENNA DESIGN AND ANALYSIS

Artech House This exciting new book focuses on the analysis and design of reconfigurable antennas for modern wireless communications, sensing, and radar. It presents the definitions of basic antenna parameters, an overview of RF switches and explains how to characterize their insertion loss, isolation, and power handling issues. Basic reconfigurable antenna building blocks, such as dipoles, monopoles, patches and slots are described, followed by presentations on frequency reconfigurable antennas, pattern reconfigurable antennas, and basic scanning antenna arrays. Switch biasing in an electromagnetic environment is discussed, as well as simulation strategies of reconfigurable antennas, and MIMO (Multiple Input Multiple Output) reconfigurable antennas. Performance characterization of reconfigurable antennas is also presented. The book provides information for the technical professional to design frequency reconfigurable, pattern reconfigurable, and MIMO antennas all relevant for modern wireless communication systems. Readers learn how to select switching devices, bias them properly, and understand their role in the overall reconfigurable antenna design. The book presents practical experimental implementation issues, including losses due to switches, materials, and EMI (Electromagnetic Interference) and shows how to address those.

PHASED ARRAY ANTENNA HANDBOOK, THIRD EDITION

Artech House This completely revised third edition of an Artech House classic, Phased Array Antenna Handbook, Second Edition, offers an up-to-date and comprehensive treatment of array antennas and systems. This edition provides a wealth of new material, including expanded coverage of phased array and multiple beam antennas. New modern machine learning techniques used for analysis are included. Additional material on wideband antennas and wideband coverage in array antennas are incorporated in this book, including new methods, devices, and technologies that have developed since the second edition. A detailed treatment of antenna system noise, sections on antenna pattern synthesis, developments in subarray technology, and in-depth coverage of array architecture and components are additional new features of this book. The book explores design elements that demonstrate how to size an array system with speed and confidence. Moreover, this resource provides expanded coverage of systems aspects of arrays for radar and communications. Supported with numerous equations and illustrations, this practical book helps evaluate basic antenna parameters such as gain, sidelobe levels, and noise. Readers learn how to compute antenna system noise, design subarray geometries for given bandwidth, scan and sidelobe constraints, and choose array illumination tapers for given sidelobe levels.

ARTIFICIAL INTELLIGENCE AND EVOLUTIONARY COMPUTATIONS IN ENGINEERING SYSTEMS

PROCEEDINGS OF ICAIECES 2016

Springer The volume is a collection of high-quality peer-reviewed research papers presented in the International Conference on Artificial Intelligence and Evolutionary Computation in Engineering Systems (ICAIECES 2016) held at SRM University, Chennai, Tamilnadu, India. This conference is an international forum for industry professionals and researchers to deliberate and state their research findings, discuss the latest advancements and explore the future directions in the emerging areas of engineering and technology. The book presents original work and novel ideas, information, techniques and applications in the field of communication, computing and power technologies.

ANTENNA THEORY AND DESIGN

John Wiley & Sons Stutzman's 3rd edition of Antenna Theory and Design provides a more pedagogical approach with a greater emphasis on computational methods. New features include additional modern material to make the text more exciting and relevant to practicing engineers; new chapters on systems, low-profile elements and base station antennas; organizational changes to improve understanding; more details to selected important topics such as microstrip antennas and arrays; and expanded measurements topic.

SMART COMPUTING AND INFORMATICS

PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE ON SCI 2016, VOLUME 2

Springer This volume contains 68 papers presented at SCI 2016: First International Conference on Smart Computing and Informatics. The conference was held during 3-4 March 2017, Visakhapatnam, India and organized communally by ANITS, Visakhapatnam and supported technically by CSI Division V – Education and Research and PRF, Vizag. This volume contains papers mainly focused on smart computing for cloud storage, data mining and software analysis, and image processing.

GPS/GNSS ANTENNAS

Artech House Introduction to GNSS antenna performance parameters -- FRPAs and high-gain directional antennas -- Multiband, handset, and active GNSS antennas -- Adaptive GPS antennas -- Ground plane, aircraft fuselage, and other platform effects on GPS antennas -- Measurement of the characteristics of GNSS antennas -- Antennas and site considerations for precise applications.

MICROSTRIP ANTENNAS

THE ANALYSIS AND DESIGN OF MICROSTRIP ANTENNAS AND ARRAYS

John Wiley & Sons "This anthology combines 15 years of microstrip antenna technology research into one significant volume and includes a special introductory tutorial by the co-editors. Covering theory, design and modeling techniques and methods, this source book is an excellent reference tool for engineers who want to become more familiar with microstrip antennas and microwave systems. Proven antenna designs, novel solutions to practical design problemsand relevant papers describing the theory of operation and analysis of microstrip antennas are contained within this convenient reference."

PRINTED ANTENNAS FOR WIRELESS COMMUNICATIONS

John Wiley & Sons Printed antennas, also known as microstrip antennas, have a variety of beneficial properties including mechanical durability, conformability, compactness and cheap manufacturing costs. As such, they have a range of applications in both the military and commercial sectors, and are often mounted on the exterior of aircraft and spacecraft as well as incorporated into mobile radio communication devices. Printed Antennas for Wireless Communications offers a practical guide to state-of-the-art printed antenna technology used for wireless systems. Contributions from renowned global experts within both academia and industry enable the reader to design printed antennas and associated technologies, and offer valuable insights into important breakthroughs in these areas. Divided into 3 sections covering fundamental wideband printed radiating elements for wireless systems, small printed antennas for wireless systems, and advanced concepts and applications in wireless systems. Provides experimental data and applies theoretical models to present design performance trends and to give the reader an in-depth coverage of the area. Presents summaries of different approaches used in solving wireless systems such as WPAN (wireless personal area network) and MIMO (multi-input/ multi-output), offering the reader an overall perspective of the pros and cons of each. Focuses on practical design, examples and 'real world' solutions. Printed Antennas for Wireless Communications offers an excellent insight on printed antennas from the theoretical to the practical; hence it will appeal to practicing design engineers within commercial and governmental/ military organistations, as well as postagraduate students and researchers in communications technology

RECTENNA: WIRELESS ENERGY HARVESTING SYSTEM

Springer Nature This book covers the theory, modeling, and implementation of different RF energy harvesting systems. RF energy harvesting is the best choice among the existing renewable energy sources, in terms of availability, cost, size, and integration with other systems. The device used for harvesting RF energy is called rectenna. A rectenna can work at the microwave, millimeter-wave, and terahertz waves. It also has the capability to operate at optical frequencies to be used for 6G and beyond communication systems. This book covers all aspects of wireless power transfer (WPT)/wireless energy harvesting (WEH), basics, theoretical concepts, and advanced developments occurring in the field of energy harvesting. It also covers the design theory for different types of antenna, rectifier, and impedance matching circuits used in RF energy harvesting systems. Different future and present applications, such as charging of vehicles, smart medical health care, self-driven e-vehicles, self-sustainable home automation system, and wireless drones, have also been discussed in detail.

CAD OF MICROSTRIP ANTENNAS FOR WIRELESS APPLICATIONS

Artech House Publishers Increasing demand for commercial applications requiring small, low-cost, easy-to-use RF/microwave systems is driving innovations in antenna technology. This "how-to" book explains why microstrip antennas are the solution for the future.

PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON MICROELECTRONICS, COMPUTING AND COMMUNICATION SYSTEMS

MCCS 2018

Springer The book presents high-quality papers from the Third International Conference on Microelectronics, Computing & Communication Systems (MCCS 2018). It discusses the latest technological trends and advances in MEMS and nanoelectronics, wireless communications, optical communication, instrumentation, signal processing, image processing, bioengineering, green energy, hybrid vehicles, environmental science, weather forecasting, cloud computing, renewable energy, RFID, CMOS sensors, actuators, transducers, telemetry systems, embedded systems, and sensor network applications. It includes papers based on original theoretical, practical and experimental simulations, development, applications, measurements, and testing. The applications and solutions discussed in the book provide excellent reference material for future product development.

APPLIED INFORMATION PROCESSING SYSTEMS

PROCEEDINGS OF ICCET 2021

Springer Nature This book is a collection of selected high-quality research papers presented at the International Conference on Computing in Engineering and Technology (ICCET 2021), organized by Dr. Babasaheb Ambedkar Technological University, Lonere, India, during January 30–31, 2021. Focusing on frontier topics and next-generation technologies, it presents original and innovative research from academics, scientists, students and engineers alike. The theme of the conference is Applied Information Processing System.

INFORMATION SYSTEMS DESIGN AND INTELLIGENT APPLICATIONS

PROCEEDINGS OF FOURTH INTERNATIONAL CONFERENCE INDIA 2017

Springer The book is a collection of high-quality peer-reviewed research papers presented at International Conference on Information System Design and Intelligent Applications (INDIA 2017) held at Duy Tan University, Da Nang, Vietnam during 15-17 June 2017. The book covers a wide range of topics of computer science and information technology discipline ranging from image processing, database application, data mining, grid and cloud computing, bioinformatics and many others. The various intelligent tools like swarm intelligence, artificial intelligence, evolutionary algorithms, bio-inspired algorithms have been well applied in different domains for solving various challenging problems.

MOBILE RADIO COMMUNICATIONS AND 5G NETWORKS

PROCEEDINGS OF MRCN 2020

Springer Nature The book features original papers by active researchers presented at the International Conference on Mobile Radio Communications and 5G Networks. It includes recent advances and upcoming technologies in the field of cellular systems, 2G/2.5G/3G/4G/5G and beyond, LTE, WiMAX, WMAN, and other emerging broadband wireless networks, WLAN, WPAN, and various home/personal networking technologies, pervasive and wearable computing and networking, small cells and femtocell networks, wireless mesh networks, vehicular wireless networks, cognitive radio networks and their applications, wireless multimedia networks, green wireless networks, standardization of emerging wireless technologies, power management and energy conservation techniques.

MULTI-MODE RESONANT ANTENNAS

THEORY, DESIGN, AND APPLICATIONS

CRC Press This title provides a unique theoretical framework for multi-mode resonant antennas and different approaches to their implementation, with an emphasis on mode gauge functionality, a new concept for a clear identification and flexible control of all usable resonant modes in multi-mode resonant antenna design. The book commences by advancing a generalized odd-even mode theory as a general theoretical framework for resonant elementary antennas, offering new insights into the classical problem of coupling effects between antenna and transmission lines and helping reveal the operation mechanism of elementary antennas under multi-mode resonance. Then, the concept of "mode gauge" is developed and employed for wideband elementary antenna design by simultaneously exciting and tuning multiple resonant modes within a single radiator. Apart from theoretical explorations, the authors also provide analysis of up-to-date implementation of multi-mode resonant elementary antennas with different functionalities, including wideband antennas, circularly polarized antennas, multiband antennas, frequency scanning antennas and low-profile antennas. Academics, students and professional engineers at all levels will greatly benefit from the book and will be provided with historical background, state-of-the-art methodology, useful design tools and multiple applications of multi-mode resonant antennas.

PROCEEDINGS OF INTERNATIONAL CONFERENCE ON ANTENNA TECHNOLOGIES

Allied Publishers

FUTURISTIC TRENDS IN NETWORK AND COMMUNICATION TECHNOLOGIES

THIRD INTERNATIONAL CONFERENCE, FTNCT 2020, TAGANROG, RUSSIA, OCTOBER 14–16, 2020, REVISED SELECTED PAPERS, PART II

Springer Nature This two-wolume set (CCIS 1395-1396) constitutes the refereed proceedings of the Third International Conference on Futuristic Trends in Network and Communication Technologies, FTNCT 2020, held in Taganrog, Russia, in October 2020. The 80 revised papers presented were carefully reviewed and selected from 291 submissions. The prime aim of the conference is to invite researchers from different domains of network and communication technologies to a single platform to showcase their research ideas. The selected papers are organized in topical sections on communication technologies; security and privacy; futuristic computing technologies; network and computing technologies; wireless networks and Internet of Things (IoT).

INNOVATIONS IN ELECTRONICS AND COMMUNICATION ENGINEERING

PROCEEDINGS OF THE 8TH ICIECE 2019

Springer Nature This book is a collection of the best research papers presented at the 8th International Conference on Innovations in Electronics and Communication Engineering at Guru Nanak Institutions Hyderabad, India. Featuring contributions by researchers, technocrats and experts, the book covers various areas of communication engineering, like signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general, as well as cutting-edge technologies. As such, it is a valuable reference resource for young researchers.

MICROSTRIP ANTENNA DESIGN HANDBOOK

Artech House Based on Bahl and Bhartia's popular 1980 classic, Microstrip Antennas, this all new book provides the detail antenna engineers and designers need to design any type of microstrip antenna. After addressing essential microchip antenna theory, the authors highlight current design and engineering practices, emphasizing the most pressing issues in this area, including broadbanding, circular polarization, and active microstrip antennas in particular. Special design challenges, ranging from dual polarization, high bandwidth, and surface wave mitigation, to choosing the proper substrate, and shaping an antenna to achieve desired results are all covered.

MICROSTRIP AND PRINTED ANTENNA DESIGN, 2ND EDN

IET Offering extensive coverage of microstrip antennas, from rectangular and circular to broadband and dual-band, this text gives a complete introduction to useful designs and the implementation aspects of these types of antennas.

ANTENNA ENGINEERING HANDBOOK

McGraw Hill Professional The gold-standard reference on the design and application of classic and modern antennas—fully updated to reflect the latest advances and technologies This new edition of the “bible of antenna engineering” has been updated to provide start-to-finish coverage of the latest innovations in antenna design and application. You will find in-depth discussion of antennas used in modern communication systems, mobile and personal wireless technologies, satellites, radar deployments, flexible electronics, and other emerging technologies, including 5G, terahertz, and wearable electronics. Antenna Engineering Handbook, Fifth Edition, is bolstered by real-world examples, hundreds of illustrations, and an emphasis on the practical aspects of antennas. Featuring 60 chapters and contributions from more than 80 renowned experts, this acclaimed resource is edited by one of the world’s leading antenna authorities. This edition features all of the classic antenna types, plus new and emerging designs, with 13 all-new chapters and important updates to nearly all chapters from past editions. Antenna Engineering Handbook, Fifth Edition, clearly explains cutting-edge applications in WLANs, automotive systems, PDAs, and handheld devices, making it an indispensable companion for today’s antenna practitioners and developers. Coverage includes: •Antenna basics and classic antennas•Design approaches for antennas and arrays•Wideband and multiband antennas•Antennas for mobile devices and PDAs, automotive applications, and aircraft•Base station and smart antennas•Beamforming and 5G antennas•Millimeter-wave and terahertz antennas•Flexible, wearable, thin film, origami, dielectric, and on-chip antennas•MIMO antennas and phased arrays•Direction-finding and GPS antennas•Active antennas•Low-profile wideband antennas•Nanoantennas•Reflectors and other satellite and radio-telescope antennas•Low-frequency, HF, VHF, UHF, ECM, and ESM antennas•Impedance-matching techniques and material characteristics•Metastructured and frequency selective surfaces•Propagation and guided structures•Computational techniques and toolsets•Indoor and outdoor measurements

DESIGN OF NONPLANAR MICROSTRIP ANTENNAS AND TRANSMISSION LINES

John Wiley & Sons A one-stop reference to the design and analysis of nonplanarmicrostrip structures. Owing to their conformal capability, nonplanar microstripantennas and transmission lines have been intensely investigatedover the past decade. Yet most of the accumulated research has beentoo scattered across the literature to be useful to scientists andengineers working on these curved structures. Now, antenna expert Kin-Lu Wong compiles and organizes thelatest research results and other cutting-edge developments into anextensive survey of the characteristics of microstrip antennasmounted on canonical nonplanar surfaces. Demonstrating a variety oftheoretical techniques and deducing the general characteristics ofnonplanar microstrip antennas from calculated results, Wongthoroughly addresses the problems of cylindrical, spherical, andconical structures and gives readers powerful design andoptimization tools. Up-to-date topics range from specific applications of sphericaland conical microstrip arrays to the curvature effects on theanalysis of cylindrical microstrip lines and coplanar waveguides.With 256 illustrations and an exhaustive list of references,Design of Nonplanar Microstrip Antennas and TransmissionLines is an indispensable guide for antenna designers inwireless and personal communications and in radar systems, and aninvaluable reference for researchers and students interested inthis important technology.

HANDBOOK OF MICROSTRIP ANTENNAS

IET The book reviews developments in the following fields:circular microstrip antennas; microstrip patch antennas; circular polarisation and bandwidth; microstrip dipoles; multilayer and parasitic configurations; wideband flat dipole and short-circuit microstrip patch elements and arrays; numerical analysis; multiport network approach; transmission-line model; rectangular microstrip antennas; low-cost printed antennas; printed phased-array antennas; circularly polarised antenna arrays; microstrip antenna feeds; substrate technology; computer-aided design of microstrip and triplate circuits; resonant microstrip antenna elements and arrays for aerospace applications; mobile and satellite systems; conical conformal microstrip tracking antenna; and microstrip field diagnostics.

ANTENNA ENGINEERING HANDBOOK, FOURTH EDITION

McGraw Hill Professional The “bible of antenna engineering” fully updated to provide state-of-the-art coverage in antenna design and applications Edited by John L. Volakis, one of the world's leading authorities in antenna engineering, this trusted resource covers all the classic antenna types plus many new types and designs used in communications systems, satellites, radars, and emerging applications from WLAN to automotive systems to biomedical to smart antennas. You will also find expert discussion of topics critical to successful antenna design and engineering, such as measurement techniques and computational methods, a materials guide, wave propagation basics, microwave circuits, and matching techniques, as well as diversity and MIMO propagation models, frequency selective surfaces, and metamaterials. Packed with 1,500 illustrations, the 4th Edition of Antenna Engineering Handbook presents: Step-by-step guidance on most antennas (modern and classic) 59 chapters with 21 new chapters and 38 fully updated chapters from the previous edition Contributions from over 80 well-known antenna experts Full-color insert illustrating many commercial and military antennas Get Quick Access to All of Today's Cutting-Edge Antennas • Printed and Conformal Antennas • Wideband Patch Antennas • Wideband Arrays • Leaky-Wave Antennas • EBG Antennas • UWB Antennas and Arrays • Portable TV Antennas • Reconfigurable Antennas • Active Antennas • Millimeter Wave and TeraHertz Antennas • Fractal Antennas • Handset and Terminal Antennas • Biomedical Antennas • ECM and ESM antennas • Dielectric Resonator Antennas • Lens Antennas • Radiometer Antennas • Satellite Antennas • Reflector and Earth Station Antennas • and Dozens More!

ANTENNA-IN-PACKAGE TECHNOLOGY AND APPLICATIONS

John Wiley & Sons A comprehensive guide to antenna design, manufacturing processes, antenna integration, and packaging Antenna-in-Package Technology and Applications contains an introduction to the history of AiP technology. It explores antennas and packages, thermal analysis and design, as well as measurement setups and methods for AiP technology. The authors—well-known experts on the topic—explain why microstrip patch antennas are the most popular and describe the myriad constraints of packaging, such as electrical performance, thermo-mechanical reliability, compactness, manufacturability, and cost. The book includes information on how the choice of interconnects is governed by JEDEC for automatic assembly and describes low-temperature co-fired ceramic, high-density interconnects, fan-out wafer level packaging–based AiP, and 3D-printing-based AiP. The book includes a detailed discussion of the surface laminar circuit–based AiP designs for large-scale mm-wave phased arrays for 94-GHz imagers and 28-GHz 5G New Radios. Additionally, the book includes information on 3D AiP for sensor nodes, near-field wireless power transfer, and IoT applications. This important book: • Includes a brief history of antenna-in-package technology • Describes package structures widely used in AiP, such as ball grid array (BGA) and quad flat no-leads (QFN) • Explores the concepts, materials and processes, designs, and verifications with special consideration for excellent electrical, mechanical, and thermal performance Written for students in electrical engineering, professors, researchers, and RF engineers, Antenna-in-Package Technology and Applications offers a guide to material selection for antennas and packages, antenna design with manufacturing processes and packaging constraints, antenna integration, and packaging.

MICROSTRIP ANTENNAS

BoD – Books on Demand In the last 40 years, the microstrip antenna has been developed for many communication systems such as radars, sensors, wireless, satellite, broadcasting, ultra-wideband, radio frequency identifications (RFIDs), reader devices etc. The progress in modern wireless communication systems has dramatically increased the demand for microstrip antennas. In this book some recent advances in microstrip antennas are presented.

MICROSTRIP ANTENNAS

ADVANCES IN UBIQUITOUS NETWORKING 2

PROCEEDINGS OF THE UNET’16

Springer This volume offers the proceedings of the 2nd UNet conference, held in Casablanca May 30 - June 1, 2016. It presents new trends and findings in hot topics related to ubiquitous computing/networking, covered in three tracks and three special sessions: Main Track 1: Context-Awareness and Autonomy Paradigms Track Main Track 2: Mobile Edge Networking and Virtualization Track Main Track 3: Enablers, Challenges and Applications Special Session 1: Smart Cities and Urban Informatics for Sustainable Development Special Session 2: Unmanned Aerial Vehicles From Theory to Applications Special Session 3: From Data to Knowledge: Big Data applications and solutions

MICROSTRIP PATCH ANTENNA LEARNING USING MATLAB. THEORY AND IMPLEMENTATION

GRIN Verlag Scientific Study from the year 2021 in the subject Engineering - Communication Technology, , course: M. Tech, language: English, abstract: Microstrip patch antenna is used to send onboard parameters of article to the ground while under operating conditions. By the study of this book we find out how to investigate a new method of teaching microstrip patch antenna design for undergraduate students by using MATLAB. Effect of changes in basic parameter microstrip patch antenna on its radiation pattern and other parameters to study the effect of resonant frequency and substrate parameters like, relative dielectric constant, substrate thickness on the radiation parameters of bandwidth and physical dimension of the microstrip patch antenna can be determined by using GUI. In this book we develops simple CAD (GUI) formulas that describe the basic properties of microstrip patch antenna using MATLAB. By the usage of this teaching tool we can analyze the behaviour of the microstrip patch antenna and design of it for different material. Satellite communication and wireless communication has been developed rapidly in the past decades and it has already a dramatic impact on human life. In the last few years, the development of wireless local area networks (WLAN) represented one of the principal interests in the information and communication field. Thus, the current trend in commercial and government communication systems has been to develop low cost, minimal weight, low profile antennas that are capable of maintaining high performance over a large spectrum of frequencies. This technological trend has focused much effort into the design of microstrip (patch) antennas. The variety in design that is possible with microstrip antenna probably exceeds that of any other type of antenna element. In addition, once the shape and operating mode of the patch are selected, designs become very versatile in terms of operating frequency, polarization, pattern, and impedance. They are extremely low profile, lightweight, simple and inexpensive to fabricate using modern day printed circuit board technology, compatible with microwave and millimeter-wave integrated circuits (MMIC), and have the ability to conform to planar and non planar surfaces.

ADVANCEMENT IN MICROSTRIP ANTENNAS WITH RECENT APPLICATIONS

BoD – Books on Demand The book discusses basic and advanced concepts of microstrip antennas, including design procedure and recent applications. Book topics include discussion of arrays, spectral domain, high Tc superconducting microstrip antennas, optimization, multiband, dual and circular polarization, microstrip to waveguide transitions, and improving bandwidth and resonance frequency. Antenna synthesis, materials, microstrip circuits, spectral domain, waveform evaluation, aperture coupled antenna geometry and miniaturization are further book topics. Planar UWB antennas are widely covered and new dual polarized UWB antennas are newly introduced. Design of UWB antennas with single or multi notch bands are also considered. Recent applications such as, cognitive radio, reconfigurable antennas, wearable antennas, and flexible antennas are presented. The book audience

will be comprised of electrical and computer engineers and other scientists well versed in microstrip antenna technology.

ANALYSIS, DESIGN, AND MEASUREMENT OF SMALL AND LOW-PROFILE ANTENNAS

Artech House Antenna Library Tutorial in nature, this book is based on a series of papers presented at a workshop in Japan. It constitutes the first single-volume guide to the basic methods of analyzing microstrip patch antennas, and the characteristics of rectangular, circular and arbitrarily shaped patch antennas. Supported by 273 equations, tables and illustrations this book should prove a useful tool for anyone doing applied research in antennas.

CIRCULARLY POLARIZED ANTENNAS

John Wiley & Sons This book presents a comprehensive insight into the design techniques for different types of CP antenna elements and arrays In this book, the authors address a broad range of topics on circularly polarized (CP) antennas. Firstly, it introduces to the reader basic principles, design techniques and characteristics of various types of CP antennas, such as CP patch antennas, CP helix antennas, quadrifilar helix antennas (QHA), printed quadrifilar helix antennas (PQHA), spiral antenna, CP slot antennas, CP dielectric resonator antennas, loop antennas, crossed dipoles, monopoles and CP horns. Advanced designs such as small-size CP antennas, broadband, wideband and ultra-wideband CP antennas are also discussed, as well as multi-band CP antennas and dual CP antennas. The design and analysis of different types of CP array antennas such as broadband CP patch arrays, dual-band CP arrays, CP printed slot arrays, single-band and multi-band CP reflectarrays, high-gain CP waveguide slot antennas, CP dielectric resonator antenna arrays, CP active arrays, millimetre-waveband CP arrays in LTCC, and CP arrays with electronically beam-switching or beam-steering capabilities are described in detail. Case studies are provided to illustrate the design and implementation of CP antennas in practical scenarios such as dual-band Global Navigation Satellite Systems (GNSS) receivers, satellite communication mobile terminals at the S-band, Radio Frequency Identification (RFID) readers at 2.4 GHz, and Ka-band high-speed satellite communication applications. It also includes the detailed designs for a wideband Logarithmic spiral antenna that can operate from 3.4-7.7 GHz. In addition, the book offers a detailed review of the recent developments of different types of CP antennas and arrays. Presents comprehensive discussions of design techniques for different types of CP antennas: small-size CP antennas, broadband CP antennas, multi-band CP antennas and CP arrays. Covers a wide range of antenna technologies such as microstrip antennas, helix, quadrifilar helix antenna, printed quadrifilar helix antenna, dielectric resonator antennas, printed slots, spiral antennas, monopoles, waveguide slot arrays, reflectarrays, active arrays, millimetre-wave arrays in LTCC, electronically beam-switching arrays and electronically beam-steerable arrays. Reviews recent developments in different types of CP antennas and arrays, reported by industries, researchers and academics worldwide. Includes numerous case studies to demonstrate how to design and implement different CP antennas in practical scenarios. Provides both an introduction for students in the field and an in-depth reference for antenna/RF engineers who work on the development of CP antennas. Circularly Polarized Antennas will be an invaluable guide for researchers in R&D organizations; system engineers (antenna, telecom, space and satellite); postgraduates studying the subjects of antenna and propagation, electromagnetics, RF/microwave/millimetre-wave systems, satellite communications and so on; technical managers and professionals in the areas of antennas and propagation.

BROADBAND PLANAR ANTENNAS

DESIGN AND APPLICATIONS

John Wiley & Sons The increasing demand for wireless communications has revolutionised the lifestyle of today’s society and one of the key components of wireless technology is antenna design. Broadband planar antennas are the newest generation of antennas boasting the attractive features required, such as broad operating bandwidth, low profile, light weight, low cost and ease of integration into arrays or Radio Frequency (RF) circuits, to make them ideal components of modern communications systems. Research into small and broadband antennas has been spurred by the rapid development of p