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A landmark collection of over 200 complete musical compositions and movements, ranging from the Middle Ages to the present, ANTHOLOGY FOR MUSICAL ANALYSIS, International Edition offers first- and second-year music theory students a wealth of illustrations of chords, voice-leading techniques, and forms, plus some material for figured-bass realization and score reading. Because this book takes no theoretical position, it is adaptable to any theoretical approach and to any type of curriculum, including those that combine theory study with music literature and the history of musical style.

Microstrip Antenna Design Artech House on Demand Microstrip Patch Antennas (Second Edition) World Scientific

TOGAF is a framework - a detailed method and a set of supporting tools - for developing an enterprise architecture, developed by members of The Open Group Architecture Forum. TOGAF Version 9.1 is a maintenance update to TOGAF 9, addressing comments raised since the introduction of TOGAF 9 in 2009. It retains the major features and structure of TOGAF 9, thereby preserving existing investment in TOGAF, and adds further detail and clarification to what is already proven. It may be used freely by any organization wishing to develop an enterprise architecture for use within that organization (subject to the Conditions of Use). This Book is divided into seven parts: Part I - Introduction This part provides a high-level introduction to the key concepts of enterprise architecture and in particular the TOGAF approach. It contains the definitions of terms used throughout TOGAF and release notes detailing the changes between this version and the previous version of TOGAF. Part II - Architecture Development Method This is the core of TOGAF. It describes the TOGAF Architecture Development Method (ADM) – a step-by-step approach to developing an enterprise architecture. Part III - ADM Guidelines & Techniques This part contains a collection of guidelines and techniques available for use in applying TOGAF and the TOGAF ADM. Part IV - Architecture Content Framework This part describes the TOGAF content framework, including a structured metamodel for architectural artifacts, the use of re-usable architecture building blocks, and an overview of typical architecture deliverables. Part V - Enterprise Continuum & Tools This part discusses appropriate taxonomies and tools to categorize and store the outputs of architecture activity within an enterprise. Part VI - TOGAF Reference Models This part provides a selection of architectural reference models, which includes the TOGAF Foundation Architecture, and the Integrated Information Infrastructure Reference Model (III-RM). Part VII Architecture Capability Framework This section looks at roles, Governance, compliance skills and much more practical guidance

This book discusses the use of the spectrum sharing techniques in cognitive radio technology, in order to address the problem of spectrum scarcity for future wireless communications. The authors describe a cognitive radio medium access control (MAC) protocol, with which throughput maximization has been achieved. The discussion also includes use of this MAC protocol for imperfect sensing scenarios and its effect on the performance of cognitive radio systems. The authors also discuss how energy efficiency has been maximized in this system, by applying a simple algorithm for optimizing the transmit power of the cognitive user. The study about the channel fading in the cognitive user and licensed user and power adaption policy in this scenario under peak transmit power and interference power constraint is also present in this book.

A comprehensive guide to assessing operational excellence. Used by thousands of manufacturing firms, this recent edition enables companies to evaluate their performance in areas such as strategic planning, people and team systems, product development, continuous improvement and planning and control.

This monograph is devoted to the theory, design, performance and application of microwave horns and feeds for reflector antennas. It is a collaboration between the microwave antenna group at Queen Mary and Westfield College and the electromagnetic group at the University of Winnipeg, Canada.

Solve challenging data science problems by mastering cutting-edge machine learning techniques in Python About This Book Resolve complex machine learning problems and explore deep learning Learn to use Python code for implementing a range of machine learning algorithms and techniques A practical tutorial that tackles real-world computing problems through a rigorous and effective approach Who This Book Is For This title is for Python developers and analysts or data scientists who are looking to add to their existing skills by accessing some of the most powerful recent trends in data science. If you've ever considered building your own image or text-tagging solution, or of entering a Kaggle contest for instance, this book is for you! Prior experience of Python and grounding in some of the core concepts of machine learning would be helpful. What You Will Learn Compete with top data scientists by gaining a practical and theoretical understanding of cutting-edge deep learning algorithms Apply your new found skills to solve real problems, through clearly-explained code for every technique and test Automate large sets of complex data and overcome time-consuming practical challenges Improve the accuracy of models and your existing input data using powerful feature engineering techniques Use multiple learning techniques together to improve the consistency of results Understand the hidden structure of datasets using a range of unsupervised techniques Gain insight into how the experts solve challenging data problems with an effective, iterative, and validation-focused approach Improve the effectiveness of your deep learning models further by using powerful ensembling techniques to strap multiple models together In Detail Designed to take you on a guided tour of the most relevant and powerful machine learning techniques in use today by top data scientists, this book is just what you need to push your Python algorithms to maximum potential. Clear examples and detailed code samples demonstrate deep learning techniques, semi-supervised learning, and more - all whilst working with real-world applications that include image, music, text, and financial data. The machine learning techniques covered in this book are at the forefront of commercial practice. They are applicable now for the first time in contexts such as image recognition, NLP and web search, computational creativity, and commercial/financial data modeling. Deep Learning algorithms and ensembles of models are in use by data scientists at top tech and digital companies, but the skills needed to apply them successfully, while in high demand, are still scarce. This book is designed to take the reader on a guided tour of the most relevant and powerful machine learning techniques. Clear descriptions of how techniques work and detailed code examples demonstrate deep learning techniques, semi-supervised learning and more, in real world applications. We will also learn about NumPy and Theano. By this end of this book, you will learn a set of advanced Machine Learning techniques and acquire a broad set of powerful skills in the area of feature selection & feature engineering. Style and approach This book focuses on clarifying the theory and code behind complex algorithms to make them practical, useable, and well-understood. Each topic is described with real-world

applications, providing both broad contextual coverage and detailed guidance.

Doodlers earn their MMD (Master Mo Doodler) diploma in 15 days or less (or more!) with this activity-packed doodle book. Draw impossible buildings, animate favorite characters, design sets, make puppets, give gifts, and create abstract art with Mo Willems! This 144-page activity book builds on the 15-episode web series LUNCH DOODLES with Mo Willems! originally produced by Mo Willems with the Kennedy Center in March of 2020. Featuring new hosts Kit and Kaboodle, the Doodle Poodles, kids get writing and drawing tips from Mo across 15 chapters of daily doodling fun. Bonus features include perforated gatefold SUPER BOUNCE gameboards, pop-out finger puppets, and how-to-draw instructions of popular Mo Willems characters.

This book takes a tutorial-based and user-friendly approach to covering Python design patterns. Its concise presentation means that in a short space of time, you will get a good introduction to various design patterns. If you are an intermediate level Python user, this book is for you. Prior knowledge of Python programming is essential. Some knowledge of UML is also required to understand the UML diagrams which are used to describe some design patterns.

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.

Practical, concise and complete reference for the basics of modern antenna design Antennas: from Theory to Practice discusses the basics of modern antenna design and theory. Developed specifically for engineers and designers who work with radio communications, radar and RF engineering, this book offers practical and hands-on treatment of antenna theory and techniques, and provides its readers the skills to analyse, design and measure various antennas. Key features: Provides thorough coverage on the basics of transmission lines, radio waves and propagation, and antenna analysis and design Discusses industrial standard design software tools, and antenna measurement equipment, facilities and techniques Covers electrically small antennas, mobile antennas, UWB antennas and new materials for antennas Also discusses reconfigurable antennas, RFID antennas, Wide-band and multi-band antennas, radar antennas, and MIMO antennas Design examples of various antennas are provided Written in a practical and concise manner by authors who are experts in antenna design, with experience from both academia and industry This book will be an invaluable resource for engineers and designers working in RF engineering, radar and radio communications, seeking a comprehensive and practical introduction to the basics of antenna design. The book can also be used as a textbook for advanced students entering a profession in this field.

Compact microstrip antennas are of great importance in meeting the miniaturization requirements of modern portable communications equipment This book is a comprehensive treatment of design techniques and test data for current compact and broadband microstrip designs Summarizes the work of the author and his graduate students who have published over 80 refereed journal articles on the subject in the past few years Advanced designs reported by various other prestigious antenna designers are incorporated as well

THE DEFINITIVE ANTENNA REFERENCE--FULLY REVISED AND EXPANDED! Design and build your own antennas with the help of this unique guide. Updated and revised to provide clear answers to questions frequently asked by hobbyists and electronics technicians, Practical Antenna Handbook, Fifth Edition blends theoretical concepts with hands-on experience--requiring only high school mathematics Reorganized to flow logically from broad physical principles to specific antenna design and construction techniques, the book begins by covering the fundamentals. Then the half-wave dipole is discussed both as an excellent antenna in its own right and as a conceptual tool for predicting the performance of other designs. Transmission line impedance matching techniques--and a companion Smith chart tutorial--lead into "must have" accessories for tuning, monitoring, and troubleshooting antenna system performance. Other tools, such as antenna modeling software and network analyzer add-ons for PCs and Macs, are addressed, and concluding chapters offer fresh insights into support structures and installation techniques. **NEW TOPICS COVERED INCLUDE:** Characteristics of all-driven and parasitic arrays Beverages and small MF/HF receiving loops Top-loaded shunt-fed towers and other verticals Theory and design of Yagi beams Effect of real ground on propagation and antenna patterns, impedance, and efficiency Lightning protection and four kinds of ground systems Zoning and restrictive covenants **COVERS A WIDE VARIETY OF ANTENNAS:** Dipoles and inverted-Vs Quads, delta, and NVIS loops Wire arrays (bobtail curtain, half-square, rhombic) Verticals and shunt-fed towers Rotatable Yagi beams MF/HF receiving antennas (flag, pennant, K9AY, Beverage) Mobile and portable antennas VHF/UHF/microwave antennas And many more **GO TO WWW.MHPROFESSIONAL.COM/CARR5 FOR:** * Tables of worldwide geographic coordinates and antenna dimensions vs. frequency * Supplier updates * Author's blog * Additional photographs and schematics * Links to tutorials and specialized calculators

Providing up-to-date material for UWB antennas and propagation as used in a wide variety of applications, "Ultra-wideband Antennas and Propagation for Communications, Radar and Imaging" includes fundamental theory, practical design information and extensive discussion of UWB applications from biomedical imaging, through to radar and wireless communications. An in-depth treatment of ultra-wideband signals in practical environments is given, including interference, coexistence and diversity considerations. The text includes antennas and propagation in biological media in addition to more conventional environments. The topics covered are approached with the aim of helping practising

engineers to view the subject from a different angle, and to consider items as variables that were treated as constants in narrowband and wideband systems. Features tables of propagation data, photographs of antenna systems and graphs of results (e.g. radiation patterns, propagation characteristics) Covers the fundamentals of antennas and propagation, as well as offering an in-depth treatment of antenna elements and arrays for UWB systems, and UWB propagation models Provides a description of the underlying concepts for the design of antennas and arrays for conventional as well as ultra-wideband systems Draws together UWB theory by using case-studies to show applications of antennas and propagation in communication, radar and imaging systems The book highlights the unique design issues of using ultra-wideband and will serve both as an introductory text and a reference guide for designers and students alike.

Presents wideband RF technologies and antennas in the microwave band and millimeter-wave band This book provides an up-to-date introduction to the technologies, design, and test procedures of RF components and systems at microwave frequencies. The book begins with a review of the elementary electromagnetics and antenna topics needed for students and engineers with no basic background in electromagnetic and antenna theory. These introductory chapters will allow readers to study and understand the basic design principles and features of RF and communication systems for communications and medical applications. After this introduction, the author examines MIC, MMIC, MEMS, and LTCC technologies. The text will also present information on meta-materials, design of microwave and mm wave systems, along with a look at microwave and mm wave receivers, transmitters and antennas. Discusses printed antennas for wireless communication systems and wearable antennas for communications and medical applications Presents design considerations with both computed and measured results of RF communication modules and CAD tools Includes end-of-chapter problems and exercises Wideband RF Technologies and Antennas in Microwave Frequencies is designed to help electrical engineers and undergraduate students to understand basic communication and RF systems definition, electromagnetic and antennas theory and fundamentals with minimum integral and differential equations. Albert Sabban, PhD, is a Senior Researcher and Lecturer at Ort Braude College Karmiel Israel. Dr. Sabban was RF and antenna specialist at communication and Biomedical Hi-tech Companies. He designed wearable compact antennas to medical systems. From 1976 to 2007, Dr. Albert Sabban worked as a senior R&D scientist and project leader in RAFAEL.

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.

Foreword from Arogyaswami Paulraj, Professor (Emeritus), Stanford University (USA) The first book to show how MIMO principles can be implemented in today's mobile broadband networks and components Explains and solves some of the practical difficulties that arise in designing and implementing MIMO systems Both theory and implementation sections are written in the context of the most recent standards: IEEE 802.11n (WiFi); IEEE 802.16 (WiMAX); 4G networks (3GPP/LTE)

A comprehensive yet quick guide to the best approaches to designing data visualizations, with real examples and illustrative diagrams. Whatever the desired outcome ensure success by following this expert design process. This book is for anyone who has responsibility for, or is interested in trying to find innovative and effective ways to visually analyze and communicate data. There is no skill, no knowledge and no role-based pre-requisites or expectations of anyone reading this book.

An active reading experience to learn DAX Power Pivot is an embedded database that significantly improves the business intelligence (BI) reporting an analytics capabilities of Microsoft Excel (versions 2010 and above). Data analysis expressions (DAX) is the formula language of Power Pivot. Learning the DAX language is key to empower Excel users so they can take advantage of these new BI capabilities, however unfortunately simply reading a book is normally not enough for Excel users to learn the DAX language – most people will also need some practice. Learn to Write DAX is different to other books - it is written in such a way to clearly explain the concepts of Power Pivot while at the same time giving hands-on practice to deeply engage the reader and to help the new knowledge and concepts stick. The book first presents the theory, then provides worked through sample exercises demonstrating each of the concepts, and finally it provides the reader with practice exercises and answers to maximize learning retention. This is the second edition of the book Learn to Write DAX. This second edition has been updated for the Excel 2016 user interface while still providing a bridge for readers wanting to learn DAX in the Excel environment and then transfer their new DAX skills across to Power BI.

A comprehensive introduction to the hardware, parameters, and architectures of RF/microwave wireless systems As the basis for some of the hottest technologies of the new millennium, radio frequency (RF) and microwave wireless systems rapidly propel us toward a future in which the transmission of voice, video, and data communications will be possible anywhere in the world through the use of simple, handheld devices. This book provides scientists and engineers with clear, thorough, up-to-date explanations of all aspects of RF and microwave wireless systems, including general hardware components, system parameters, and architectures. Renowned authority Kai Chang covers both communication and radar/sensor systems and extends the discussion to other intriguing topics, from global positioning systems (GPS) to smart highways and smart automobiles. With an emphasis on basic operating principles, Dr. Chang reviews waves and transmission lines, examines modulation and demodulation and multiple-access techniques, and helps bridge the gap between RF/microwave engineering and communication system design. Ample practical examples of components and system configurations and nearly 300 illustrations and photographs complete this timely and indispensable resource. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department

Based on the author's extensive research at MIT Lincoln Laboratory, this authoritative resource offers an in-depth description of adaptive array design, emphasizing the RF characteristics, mutual coupling among elements, and field testing methods. It provides you with proven techniques for challenging projects involving radar, communication systems and antenna design. For the first time in any book, you find design guidance on specialized types of arrays, using monopole radiating elements, slotted cylinders and ultrawideband dipoles. Moreover, this unique book presents a focused near-field technique that quantifies the far-field performance of large aperture radar systems and communication systems. The book presents example prototype phased array antennas, including discussions on monopole phased arrays, finite and infinite array analyses, measurements for planar arrays of monopole elements. Further, you get a detailed explanation of focused near-field polarization characteristics of monopole arrays as related to adaptive array testing in the near field. From the fundamentals of adaptive antennas and degrees of freedom for multiple beam antennas and phased arrays... to a test bed monopole phased array and the planar near field testing technique... to arrays of horizontally polarized loop-fed slotted cylinder antennas and ultrawideband dipole arrays, this comprehensive book offers you invaluable, hands-on knowledge for your work in the field.

Test your knowledge of modern electrical and electronics systems for aircraft Fully updated for the latest technological advances, this complete study guide features hundreds of multiple-choice, fill-in-the-blank, and analysis questions to reinforce the material presented in Aircraft Electricity and Electronics, Sixth Edition. Topics covered include design concepts, FAA certification requirements, and aerospace-quality maintenance and repair techniques for aircraft electrical and electronics systems. Designed to help you prepare for the FAA Airframe and Powerplant Mechanic certification exam, this book contains new and revised information on: The Airbus A-380 and the Boeing 787 Fiber-optic cable Brushless motors and modern sensors Variable frequency generators Very light jet electrical power systems Electronic maintenance data Advanced integrated test equipment GPS augmentation systems and satellite communications Flight data and cockpit voice recorders Synthetic vision and radar systems Integrated flight decks Flight management systems And much more Study Guide for Aircraft Electricity and Electronics, Sixth Edition, covers: Fundamentals of electricity Applications of Ohm's law Aircraft storage batteries Electric wire and wiring practices Alternating current Electrical control devices Digital electronics Electric measuring instruments Electric motors Generators and related control circuits Alternators, inverters, and related controls Power distribution systems Design and maintenance of aircraft electrical systems Radio theory Communication and navigation systems Weather warning and other safety systems Instruments and autoflight systems 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.

The ultimate handbook on microwave circuit design with CAD. Full of tips and insights from seasoned industry veterans, Microwave Circuit Design offers practical, proven advice on improving the design quality of microwave passive and active circuits-while cutting costs and time. Covering all levels of microwave circuit design from the elementary to the very advanced, the book systematically presents computer-aided methods for linear and nonlinear designs used in the design and manufacture of microwave amplifiers, oscillators, and mixers. Using the newest CAD tools, the book shows how to design transistor and diode circuits, and also details CAD's usefulness in microwave integrated circuit (MIC) and monolithic microwave integrated circuit (MMIC) technology. Applications of nonlinear SPICE programs, now available for microwave CAD, are described. State-of-the-art coverage includes microwave transistors (HEMTs, MODFETs, MESFETs, HBTs, and more), high-power amplifier design, oscillator design including feedback topologies, phase noise and examples, and more. The techniques presented are illustrated with several MMIC designs, including a wideband amplifier, a low-noise amplifier, and an MMIC mixer. This unique, one-stop handbook also features a major case study of an actual anticollision radar transceiver, which is compared in detail against CAD predictions; examples of actual circuit designs with photographs of completed circuits; and tables of design formulae.

"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 problems and relevant papers describing the theory of operation and analysis of microstrip antennas are contained within this convenient reference."

The theory of probability is a powerful tool that helps electrical and computer engineers to explain, model, analyze, and design the technology they develop. The text begins at the advanced undergraduate level, assuming only a modest knowledge of probability, and progresses through more complex topics mastered at graduate level. The first five chapters cover the basics of probability and both discrete and continuous random variables. The later chapters have a more specialized coverage, including random vectors, Gaussian random vectors, random processes, Markov Chains, and convergence. Describing tools and results that are used extensively in the field, this is more than a textbook; it is also a reference for researchers working in communications, signal processing, and computer network traffic analysis. With over 300 worked examples, some 800 homework problems, and sections for exam preparation, this is an essential companion for advanced undergraduate and graduate students. Further resources for this title, including solutions (for Instructors only), are available online at www.cambridge.org/9780521864701.

The 9th ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing, held in Phuket Thailand on August 6 – 8, 2008 is aimed at bringing together researchers and scientist, businessmen and entrepreneurs, teachers and students to discuss the numerous fields of computer science, and to share ideas and information in a meaningful way. This publication captures 20 of the conference's most promising papers, and we impatiently await the important contributions that we know these authors will bring to the field.

This handbook provides a glimpse of the research that is underway in smart cities, with an examination of the relevant issues. It describes software infrastructures for smart cities, the role of 5G and Internet of things in future smart cities scenarios, the use of clouds and sensor-based devices for monitoring and managing smart city facilities, a variety of issues in the emerging field of urban informatics, and various smart city applications. Handbook of Smart Cities includes fifteen chapters from renowned worldwide researchers working on various aspects of smart city scale cyber-physical systems. It is intended for researchers, developers of smart city technologies and advanced-level students in the fields of communication systems, computer science, and

data science. This handbook is also designed for anyone wishing to find out more about the on-going research thrusts and deployment experiences in smart cities. It is meant to provide a snapshot of the state-of-the-art at the time of its writing in several software services and cyber infrastructures as pertinent to smart cities. This handbook presents application case studies in video surveillance, smart parking, and smart building management in the smart city context. Unique experiences in designing and implementing the applications or the issues involved in developing smart city level applications are described in these chapters. Integration of machine learning into several smart city application scenarios is also examined in some chapters of this handbook.

As the demand for broadband services continues to grow worldwide, traditional solutions, such as digital cable and fiber optics, are often difficult and expensive to implement, especially in rural and remote areas. The emerging WiMAX system satisfies the growing need for high data-rate applications such as voiceover IP, video conferencing, interactive gaming, and multimedia streaming. WiMAX deployments not only serve residential and enterprise users but can also be deployed as a backhaul for Wi-Fi hotspots or 3G cellular towers. By providing affordable wireless broadband access, the technology of WiMAX will revolutionize broadband communications in the developed world and bridge the digital divide in developing countries. Part of the WiMAX Handbook, this volume focuses on the technologies behind WiMAX, its performance capabilities, and its control mechanisms. The book introduces programmable baseband processors suited for WiMAX systems, describes an innovative methodology for the design of multi-band WiMAX antennas, addresses space-time block codes, and reviews space-frequency/space-time-frequency code design criteria. It also proposes a combined call admission control and scheduling scheme, focuses on the performance analysis of the IEEE 802.16 mesh mode, and analyzes the performance of both single-input-single-output and space-time-block-coded OFDM systems in mobile environments. The final section establishes a framework of an ideal reservation period controller, examines the ecosystem in which scheduling for IEEE 802.16e systems must be performed, and presents a fuzzy logic controller for admission control. With the revolutionary technology of WiMAX, the lives of many will undoubtedly improve, thereby leading to greater economic empowerment.

Contributions by Rick Graziani and Bob Vachon.

Multiple-input multiple-output (MIMO) technology constitutes a breakthrough in the design of wireless communications systems, and is already at the core of several wireless standards. Exploiting multipath scattering, MIMO techniques deliver significant performance enhancements in terms of data transmission rate and interference reduction. This 2007 book is a detailed introduction to the analysis and design of MIMO wireless systems. Beginning with an overview of MIMO technology, the authors then examine the fundamental capacity limits of MIMO systems. Transmitter design, including precoding and space-time coding, is then treated in depth, and the book closes with two chapters devoted to receiver design. Written by a team of leading experts, the book blends theoretical analysis with physical insights, and highlights a range of key design challenges. It can be used as a textbook for advanced courses on wireless communications, and will also appeal to researchers and practitioners working on MIMO wireless systems.

The 2020 International Conference on Broadband Communication, Wireless Sensors and Powering (BCWSP 2020) aims to bring academic scientists, research scholars and practitioners to exchange and share their experiences and research results on all aspects of Broadband Communications, Wireless Sensors, and Powering It also provides a premier interdisciplinary platform for researchers, educators and practitioners to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Broadband Communications, Wireless Sensors, and Powering

Antenna Theory and Microstrip Antennas offers a uniquely balanced analysis of antenna fundamentals and microstrip antennas. Concise and readable, it provides theoretical background, application materials, and details of recent progress. Exploring several effective design approaches, this book covers a wide scope, making it an ideal hands-on resource for professionals seeking a refresher in the fundamentals. It also provides the basic grounding in antenna essentials that is required for those new to the field. The book's primary focus is on introducing practical techniques that will enable users to make optimal use of powerful commercial software packages and computational electromagnetics used in full wave analysis and antenna design. Going beyond particular numerical computations to teach broader concepts, the author systematically presents the all-important spectral domain approach to analyzing microstrip structures including antennas. In addition to a discussion of near-field measurement and the high-frequency method, this book also covers: Elementary linear sources, including Huygen's planar element, and analysis and synthesis of the discrete and continuous arrays formed by these elementary sources The digital beam-forming antenna and smart antenna Cavity mode theory and related issues, including the design of irregularly shaped patches and the analysis of mutual coupling Based on much of the author's own internationally published research, and honed by his years of teaching experience, this text is designed to bring students, engineers, and technicians up to speed as efficiently as possible. This text purposefully emphasizes principles and includes carefully selected sample problems to ease the process of understanding the often intimidating area of antenna technology. Paying close attention to this text, you will be able to confidently emulate the author's own systematic approach to make the most of commercial software and find the creative solutions that every job seems to require.

A practical book written for engineers who design and use antennas The author has many years of hands on experience designing antennas 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

This definitive textbook provides students with a comprehensive introduction to acoustics. Beginning with the basic physical ideas, Acoustics balances the fundamentals with engineering aspects, applications and electroacoustics, also covering music, speech and the properties of human hearing. The concepts of acoustics are exposed and applied in: room acoustics sound insulation in buildings noise control underwater sound and ultrasound Scientifically thorough, but with mathematics kept to a minimum, Acoustics is the perfect introduction to acoustics for students at any level of mechanical, electrical or civil engineering courses and an accessible resource for architects, musicians or sound engineers requiring a technical understanding of acoustics and their applications.

This is a reference source for practising engineers specializing in electric power engineering and industrial electronics. It begins with the basic dynamic models of induction motors and progresses to low- and high-performance drive systems.

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