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IEICE Transactions on Electronics **Planar Antennas** Communication, Devices, and Computing Techniques in Microfabrication of a 400 GHz Folded Waveguide Traveling Wave Tube *Proceedings of the 2nd International Conference on Intelligent Technologies and Engineering Systems (ICITES2013)* Filter Design for Satellite Communications: Helical Resonator Technology **Topical Drifts in Intelligent Computing** International Journal of Infrared and Millimeter Waves *Heatmetry* International Conference on Innovative Computing and Communications *Reflectarray Antennas* **Advanced Millimeter-wave Technologies** *New Developments and Applications in Sensing Technology* Chipless and Conventional Radio Frequency Identification: Systems for Ubiquitous Tagging **Antenna Fundamentals for Legacy Mobile Applications and Beyond** **Interdisciplinary Research in Technology and Management** **Wideband RF Technologies and Antennas in Microwave Frequencies** **24 GHz Multi-functional MMICs Using SiGe HBTs** **Reconfigurable Antenna Design and Analysis** **Modern Small Antennas Innovations in Smart Cities Applications** **Volume 4 Wearable Systems and Antennas Technologies for 5G, IOT and Medical Systems** *RF MEMS Circuit Design for Wireless Communications* Advanced Design Techniques and Realizations of Microwave and RF Filters **Machine Intelligence and Soft Computing** Radio Science Digest **Microwave Journal** **Millimeter Wave Imaging Antenna Arrays for Plasma Diagnostic Application** **Radio Frequency Identification Fundamentals and Applications** **Membrane Proteins in Aqueous Solutions** Soft Computing: Theories and Applications **Circularly Polarized Antennas** Transformation Electromagnetics and Metamaterials **ICICCT 2019 - System Reliability, Quality Control, Safety, Maintenance and Management** *Nanoelectronics, Circuits and Communication Systems* Printed Antennas **Advances in Signal Processing and Communication** **Advanced Technologies for Humanity** **ACSM's Resources for the Health Fitness Specialist**

Antenna Fundamentals for Legacy Mobile Applications and Beyond

Aug 11 2021 This book highlights technology trends and challenges that trace the evolution of antenna design, starting from 3rd generation phones and moving towards the latest release of LTE-A. The authors explore how the simple monopole and whip antenna from the GSM years have evolved towards what we have today, an antenna design that is compact, multi-band in nature and caters to multiple elements on the same patch to provide high throughput connectivity.

The scope of the book targets a broad range of subjects, including the microstrip antenna, PIFA antenna, and the monopole antenna to be used for different applications over three different mobile generations. Beyond that, the authors take a step into the future and look at antenna requirements for 5G communications, which already has the 5G drive in place with prominent scenarios and use-cases emerging. They examine these, and put in place the challenges that lie ahead for antenna design, particularly in mm-Wave design. The book provides a reference for

practicing engineers and under/post graduate students working in this field.

Machine Intelligence and Soft Computing

Oct 01 2020 This book gathers selected papers presented at the International Conference on Machine Intelligence and Soft Computing (ICMISC 2020), held jointly by Vignan's Institute of Information Technology, Visakhapatnam, India and VFSTR Deemed to be University, Guntur, AP, India during 03-04 September 2020. Topics covered in the book include the artificial neural networks and fuzzy logic, cloud computing, evolutionary

algorithms and computation, machine learning, metaheuristics and swarm intelligence, neuro-fuzzy system, soft computing and decision support systems, soft computing applications in actuarial science, soft computing for database deadlock resolution, soft computing methods in engineering, and support vector machine.

Digest Jul 30 2020

International Conference on

Innovative Computing and

Communications Jan 16 2022

This book gathers high-quality research papers presented at the Second International Conference on Innovative Computing and Communication (ICICC 2019), which was held at the VSB - Technical University of Ostrava, Czech Republic, on 21-22 March 2019. Highlighting innovative papers by scientists, scholars, students, and industry experts in the fields of computing and communication, the book promotes the transformation of fundamental research into institutional and industrialized research, and the translation of applied research into real-world applications.

Chipless and Conventional
Radio Frequency Identification:
Systems for Ubiquitous

Tagging Sep 12 2021

Radio Frequency Identification (RFID) is a wireless tracking and data capturing technique for automatic identification, tracking, security surveillance, logistics, and supply chain management. RFID tags, which have been successfully employed in many industries including retail and healthcare,

have provided a multitude of benefits but also currently remain very costly. Chipless and Conventional Radio Frequency Identification: Systems for Ubiquitous Tagging explores the use of conventional RFID technology as well as chipless RFID technology, which provides a cheaper method of implementation, opening many doors for a variety of applications and industries.

This practical reference, designed for researchers and practitioners, investigates the growing field of RFID and its promising future.

Radio Frequency Identification Fundamentals and Applications Apr 26 2020

This book, entitled Radio Frequency Identification Fundamentals and Applications, Bringing Research to Practice, bridges the gap between theory and practice and brings together a variety of research results and practical solutions in the field of RFID. The book is a rich collection of articles written by people from all over the world: teachers, researchers, engineers, and technical people with strong background in the RFID area. Developed as a source of information on RFID technology, the book addresses a wide audience including designers for RFID systems, researchers, students and anyone who would like to learn about this field. At this point I would like to express my thanks to all scientists who were kind enough to contribute to the success of this project by presenting numerous technical studies and research results.

However, we couldn't have published this book without the effort of InTech team. I wish to extend my most sincere gratitude to InTech publishing house for continuing to publish new, interesting and valuable books for all of us.

New Developments and Applications in Sensing Technology Oct 13 2021

This book has focussed on different aspects of smart sensors and sensing technology, i.e. intelligent measurement, information processing, adaptability, recalibration, data fusion, validation, high reliability and integration of novel and high performance sensors in the areas of magnetic, ultrasonic, vision and image sensing, wireless sensors and network, microfluidic, tactile, gyro, flow, surface acoustic wave, humidity and ultra-wide band. While future interest in this field is ensured by the constant supply of emerging modalities, techniques and engineering solutions, as well as an increasing need from aging structures, many of the basic concepts and strategies have already matured and now offer opportunities to build upon. The book has primarily been focussed for postgraduate and research students working on different aspects of design and developments of smart sensors and sensing technology.

Planar Antennas Sep 24 2022

This comprehensive reference text discusses fundamental concepts, applications, design techniques, and challenges in the field of planar antennas. The text focuses on recent advances in the field of planar

antenna design and their applications in various fields of research, including space communication, mobile communication, wireless communication, and wearable applications. This resource presents planar antenna design concepts, methods, and techniques to enhance the performance parameters and applications for IoTs and device-to-device communication. The latest techniques used in antenna design, including their structures defected ground, MIMO, and fractal design, are discussed comprehensively. The text will be useful for senior undergraduate students, graduate students, and academic researchers in fields including electrical engineering, electronics, and communication engineering.

IEICE Transactions on Electronics Oct 25 2022

Advanced Technologies for Humanity Jul 18 2019 This book gathers the proceedings of the International Conference on Advanced Technologies for Humanity (ICATH'2021), held on November 26-27, 2021, in INSEA, Rabat, Morocco. ICATH'2021 was jointly co-organized by the National Institute of Statistics and Applied Economics (INSEA) in collaboration with the Moroccan School of Engineering Sciences (EMSI), the Hassan II Institute of Agronomy and Veterinary Medicine (IAV-Hassan II), the National Institute of Posts and Telecommunications (INPT), the National School of Mineral Industry (ENSMR), the Faculty of Sciences of Rabat (UM5-

FSR), the National School of Applied Sciences of Kenitra (ENSAK) and the Future University in Egypt (FUE). ICATH'2021 was devoted to practical models and industrial applications related to advanced technologies for Humanity. It was considered as a meeting point for researchers and practitioners to enable the implementation of advanced information technologies into various industries. This book is helpful for PhD students as well as researchers. The 48 full papers were carefully reviewed and selected from 105 submissions. The papers presented in the volume are organized in topical sections on synergies between (i) smart and sustainable cities, (ii) communication systems, signal and image processing for humanity, (iii) cybersecurity, database and language processing for human applications, (iv) renewable and sustainable energies, (V) civil engineering and structures for sustainable constructions, (Vi) materials and smart buildings and (Vii) Industry 4.0 for smart factories. All contributions were subject to a double-blind review. The review process was highly competitive. We had to review 105 submissions from 12 countries. A team of over 100 program committee members and reviewers did this terrific job. Our special thanks go to all of them.

Interdisciplinary Research in Technology and Management

Jul 10 2021 The conference on 'Interdisciplinary Research in Technology and Management'

was a bold experiment in deviating from the traditional approach of conferences which focus on a specific topic or theme. By attempting to bring diverse inter-related topics on a common platform, the conference has sought to answer a long felt need and give a fillip to interdisciplinary research not only within the technology domain but across domains in the management field as well. The spectrum of topics covered in the research papers is too wide to be singled out for specific mention but it is noteworthy that these papers addressed many important and relevant concerns of the day. *RF MEMS Circuit Design for Wireless Communications* Dec 03 2020 This is the first comprehensive book to address the design of RF MEMS-based circuits for use in high performance wireless systems. A groundbreaking research and reference tool, the book enables you to understand the realm of applications of RF MEMS technology; become knowledgeable of the wide variety and performance levels of RF MEMS devices; and partition the architecture of wireless systems to achieve greater levels of performance. This innovative resource also guides you through the design process of RF MEMS-based circuits, and establishes a practical knowledge base for the design of high-yield RF MEMS-based circuits. The book features exercises and detailed case studies on working RF MEMS circuits that help you decide what approaches best fit your design constraints. This unified treatment of RF MEMS-

based circuit technology opens up a new world of solutions for meeting the unique challenges of low power/portable wireless products.

International Journal of Infrared and Millimeter Waves

Mar 18 2022

Nanoelectronics, Circuits and Communication Systems Oct 21

2019 This book features

selected papers presented at the Fifth International

Conference on

Nanoelectronics, Circuits and Communication Systems

(NCCS 2019). It covers a range

of topics, including

nanoelectronic devices,

microelectronics devices,

material science, machine

learning, Internet of things,

cloud computing, computing

systems, wireless

communication systems,

advances in communication 5G

and beyond. Further, it

discusses VLSI circuits and

systems, MEMS, IC design and

testing, electronic system

design and manufacturing,

speech signal processing,

digital signal processing,

FPGA-based wireless

communication systems and

FPGA-based system design,

Industry 4.0, e-farming,

semiconductor memories, and

IC fault detection and

correction.

Wearable Systems and Antennas Technologies for 5G, IOT and Medical Systems

Jan 04 2021 Due to

progress in the development of

communication systems, it is

now possible to develop low-

cost wearable communication

systems. A wearable antenna is

meant to be a part of the

clothing or close to the body

and used for communication purposes, which include tracking and navigation, mobile computing and public safety.

Examples include

smartwatches (with integrated

Bluetooth antennas), glasses

(such as Google Glass with Wi-

Fi and GPS antennas), GoPro

action cameras (with Wi-Fi and

Bluetooth antennas), etc. They

are increasingly common in

consumer electronics and for

healthcare and medical

applications. However, the

development of compact,

efficient wearable antennas is

one of the major challenges in

the development of wearable

communication and medical

systems. Technologies such as

printed compact antennas and

miniaturization techniques

have been developed to create

efficient, small wearable

antennas which are the main

objective of this book. Each

chapter covers enough

mathematical detail and

explanations to enable

electrical, electromagnetic and

biomedical engineers and

students and scientists from all

areas to follow and understand

the topics presented. New

topics and design methods are

presented for the first time in

the area of wearable antennas,

metamaterial antennas and

fractal antennas. The book

covers wearable antennas, RF

measurements techniques and

measured results in the vicinity

of the human body, setups and

design considerations. The

wearable antennas and devices

presented in this book were

analyzed by using HFSS and

ADS 3D full-wave

electromagnetics software.

Explores wearable medical

systems and antennas Explains the design and development of wearable communication systems

Explores wearable

reconfigurable antennas for

communication and medical

applications Discusses new

types of metamaterial antennas

and artificial magnetic

conductors (AMC) Reviews

textile antennas Dr. Albert

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University of Colorado at

Boulder, USA (1991), and an

MBA from the Faculty of

Management, Haifa University,

Israel (2005). He is currently a

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at the Department of Electrical

and Electronic Engineering at

Kinneret and Ort Braude

Engineering Colleges.

Reflectarray Antennas Dec 15

2021 Describes the

configuration and principles of

a reflectarray antenna, its

advantages over other

antennas, the history of its

development, analysis

techniques, practical design

procedures, bandwidth issues

and wideband techniques, as

well as applications and recent

developments. Both authors

are well respected

practitioners who have build

these antennas and developed

them for space flight.

Communication, Devices, and

Computing Aug 23 2022 This

book provides insights into the

First International Conference

on Communication, Devices

and Computing (ICCDC 2017),

which was held in Haldia, India

on November 2-3, 2017. It

covers new ideas, applications

and the experiences of

research engineers, scientists,

industrialists, scholars and

students from around the globe. The proceedings highlight cutting-edge research on communication, electronic devices and computing, and address diverse areas such as 5G communication, spread spectrum systems, wireless sensor networks, signal processing for secure communication, error control coding, printed antennas, analysis of wireless networks, antenna array systems, analog and digital signal processing for communication systems, frequency selective surfaces, radar communication, and substrate integrated waveguide and microwave passive components, which are key to state-of-the-art innovations in communication technologies.

Heatmetry Feb 17 2022 This book is a translation from a Russian book. In 2007, the authors created a new generation of layered composite-based sensors, whose advantages are high technology and thermal stability. The use of gradient heat flux sensors in laboratory and industrial conditions confirmed their reliability, showed high information, and allowed a number of priority results to be obtained. All of this is summarized in this book.

Topical Drifts in Intelligent Computing Apr 19 2022 This book gathers a collection of high-quality peer-reviewed research papers presented at International Conference on Computational Techniques and Applications (ICCTA 2021), organized by the Electronics and Telecommunication Engineers (IETE), Kolkata Center, India, during 8 - 9

October 2021. This includes research in the areas of intelligent computing and communication systems including computing, electronics, green energy design, communications, computers to interact and disseminate information on latest developments both academically and industrially for computational drifts. The three main tracks are (i) computing in network security, AI and data science; (ii) contemporary issues in electronics, and communication technology; and (iii) intelligent computing in electrical power, control systems and energy technology.

Printed Antennas Sep 19 2019 This collection covers different printed microstrip antenna designs, from rectangular to circular, broadband, dual-band, and millimeter-wave microstrip antennas to microstrip arrays. It further presents a new analysis of the rectangular and circular microstrip antenna efficiency and surface wave phenomena. The book Covers the latest advances and applications of microstrip antennas Discusses methods and techniques used for the enhancement of the performance parameters of the microstrip antenna Presents low-power wide area network (LPWAN) proximity-coupled antenna for Internet of Things applications. Highlights a new analysis of rectangular and circular microstrip antenna efficiency and surface wave phenomena. Showcases implantable antennas, H-shaped antennas, and wideband implantable antennas

for biomedical applications **Printed Antennas** discusses the latest advances such as the Internet of Things for antenna applications, device-to-device communication, satellite communication, and wearable textile antenna in the field of communication. It further presents methods and techniques used for the enhancement of the performance parameters of the microstrip antenna and covers the design of conformal and miniaturized antenna structures for various applications. It will serve as an ideal reference text for senior undergraduates, graduate students, and researchers in fields including electrical engineering, electronics and communications engineering, and computer engineering.

24 GHz Multi-functional MMICs Using SiGe HBTs May 08 2021

Reconfigurable Antenna Design and Analysis Apr 07 2021 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.

Proceedings of the 2nd International Conference on Intelligent Technologies and Engineering Systems (ICITES2013) Jun 21 2022 This book includes the original, peer reviewed research papers from the conference, Proceedings of the 2nd International Conference on Intelligent Technologies and Engineering Systems (ICITES2013), which took place on December 12-14, 2013 at Cheng Shiu University in Kaohsiung, Taiwan. Topics covered include: laser technology, wireless and mobile networking, lean and agile manufacturing, speech processing, microwave dielectrics, intelligent circuits and systems, 3D graphics,

communications and structure dynamics and control. **Membrane Proteins in Aqueous Solutions** Mar 26 2020 This book is the first to be entirely devoted to the challenging art of handling membrane proteins out of their natural environment, a key process in biological and pharmaceutical research, but one plagued with difficulties and pitfalls. Written by one of the foremost experts in the field, Membrane Proteins in Aqueous Solutions is accessible to any member of a membrane biology laboratory. After presenting the structure, functions, dynamics, synthesis, natural environment and lipid interactions of membrane proteins, the author discusses the principles of extracting them with detergents, the mechanisms of detergent-induced destabilization, countermeasures, and recent progress in developing detergents with weaker denaturing properties. Non-conventional alternatives to detergents, including bicelles, nanodiscs, amphipathic peptides, fluorinated surfactants and amphipols, are described, and their relative advantages and drawbacks are compared. The synthesis and solution properties of the various types of amphipols are presented, as well as the formation and properties of membrane protein/amphipol complexes and the transfer of amphipol-trapped proteins to detergents, nanodiscs, lipidic mesophases, or living cells. The final chapters of the book deal with applications: membrane protein in vitro folding and cell-

free expression, solution studies, NMR, crystallography, electron microscopy, mass spectrometry, amphipol-mediated immobilization of membrane proteins, and biomedical applications. Important features of the book include introductory sections describing foundations as well as the state-of-the-art for each of the biophysical techniques discussed, and topical tables which organize a widely dispersed literature. Boxes and annexes throughout the book explain technical aspects, and twelve detailed experimental protocols, ranging from in vitro folding of membrane proteins to single-particle electron cryomicroscopy, have been contributed by and commented on by experienced users. Membrane Proteins in Aqueous Solutions offers a concise, accessible introduction to membrane protein biochemistry and biophysics, as well as comprehensive coverage of the properties and uses of conventional and non-conventional surfactants. It will be useful both in basic and applied research laboratories and as a teaching aid for students, instructors, researchers, and professionals within the field.

Advanced Millimeter-wave Technologies Nov 14 2021 This book explains one of the hottest topics in wireless and electronic devices community, namely the wireless communication at mmWave frequencies, especially at the 60 GHz ISM band. It provides the reader with knowledge and techniques for mmWave antenna design, evaluation,

antenna and chip packaging. Addresses practical engineering issues such as RF material evaluation and selection, antenna and packaging requirements, manufacturing tolerances, antenna and system interconnections, and antenna One of the first books to discuss the emerging research and application areas, particularly chip packages with integrated antennas, wafer scale mmWave phased arrays and imaging Contains a good number of case studies to aid understanding Provides the antenna and packaging technologies for the latest and emerging applications with the emphases on antenna integrations for practical applications such as wireless USB, wireless video, phase array, automobile collision avoidance radar, and imaging [Soft Computing: Theories and Applications](#) Feb 23 2020 This book focuses on soft computing and its applications to solve real-life problems occurring in different domains ranging from medical and health care, supply chain management and image processing to cryptanalysis. It presents the proceedings of International Conference on Soft Computing: Theories and Applications (SoCTA 2016), offering significant insights into soft computing for teachers and researchers and inspiring more and more researchers to work in the field of soft computing. >The term soft computing represents an umbrella term for computational techniques like fuzzy logic, neural networks, and nature inspired algorithms.

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In the past few decades, there has been an exponential rise in the application of soft computing techniques for solving complex and intricate problems arising in different spheres of life. The versatility of these techniques has made them a favorite among scientists and researchers working in diverse areas. SoCTA is the first international conference being organized at Amity University Rajasthan (AUR), Jaipur. The objective of SoCTA 2016 is to provide a common platform to researchers, academicians, scientists, and industrialists working in the area of soft computing to share and exchange their views and ideas on the theory and application of soft computing techniques in multi-disciplinary areas. The aim of the conference is to bring together young and experienced researchers, academicians, scientists, and industrialists for the exchange of knowledge. SoCTA especially encourages the young researchers at the beginning of their career to participate in this conference and present their work on this platform. **Millimeter Wave Imaging Antenna Arrays for Plasma Diagnostic Application** May 28 2020 [Techniques in Microfabrication of a 400 GHz Folded Waveguide Traveling Wave Tube](#) Jul 22 2022 **Modern Small Antennas** Mar 06 2021 If you are involved in designing and developing small antennas, this complete cutting-edge guide covers everything you need to know. From fundamentals and basic

theory to design optimization, evaluation, measurements and simulation techniques, all the essential information is included. You will also get many practical examples from a range of wireless systems, whilst a glossary is provided to bring you up to speed on the latest terminology. A wide variety of small antennas is covered, and design and practice steps are described for each type: electrically small, functionally small, physically constrained small and physically small. Whether you are a professional in industry, a researcher, or a graduate student, this is your essential guide to small antennas. **Wideband RF Technologies and Antennas in Microwave Frequencies** Jun 09 2021 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

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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.

Advanced Design Techniques and Realizations of Microwave and RF Filters Nov 02 2020

The fundamentals needed to design and realize microwave and RF filters. Microwave and RF filters play an important role in communication systems and, owing to the proliferation of radar, satellite, and mobile

wireless systems, there is a need for design methods that can satisfy the ever-increasing demand for accuracy, reliability, and shorter development times. Beginning with a brief review of scattering and chain matrices, filter approximations and synthesis, waveguides and transmission lines, and fundamental electromagnetic equations, the book then covers design techniques for microwave and RF filters operating across a frequency range from 1 GHz to 35 GHz. Each design chapter: Is dedicated to only one filter and is organized by the type of filter response Provides several design examples, including the analysis and modeling of the structures discussed and the methodologies employed Offers practical information on the actual performance of the filters and common difficulties encountered during construction Concludes with the construction technique, pictures of the inside and outside of the filter, and the measured performances Advanced Design Techniques and Realizations of Microwave and RF Filters is an essential resource for wireless and telecommunication engineers, as well as for researchers interested in current microwave and RF filter design practices. It is also appropriate as a supplementary textbook for advanced undergraduate courses in filter design.

Transformation Electromagnetics and Metamaterials Dec 23 2019 Transformation electromagnetics is a

systematic design technique for optical and electromagnetic devices that enables novel wave-material interaction properties. The associated metamaterials technology for designing and realizing optical and electromagnetic devices can control the behavior of light and electromagnetic waves in ways that have not been conventionally possible. The technique is credited with numerous novel device designs, most notably the invisibility cloaks, perfect lenses and a host of other remarkable devices. Transformation Electromagnetics and Metamaterials: Fundamental Principles and Applications presents a comprehensive treatment of the rapidly growing area of transformation electromagnetics and related metamaterial technology with contributions on the subject provided by a collection of leading experts from around the world. On the theoretical side, the following questions will be addressed: "Where does transformation electromagnetics come from?," "What are the general material properties for different classes of coordinate transformations?," "What are the limitations and challenges of device realizations?," and "What theoretical tools are available to make the coordinate transformation-based designs more amenable to fabrication using currently available techniques?" The comprehensive theoretical treatment will be complemented by device designs and/or realizations in various frequency regimes and

applications including acoustic, radio frequency, terahertz, infrared, and the visible spectrum. The applications encompass invisibility cloaks, gradient-index lenses in the microwave and optical regimes, negative-index superlenses for sub-wavelength resolution focusing, flat lenses that produce highly collimated beams from an embedded antenna or optical source, beam concentrators, polarization rotators and splitters, perfect electromagnetic absorbers, and many others. This book will serve as the authoritative reference for students and researchers alike to the fast-evolving and exciting research area of transformation electromagnetics/optics, its application to the design of revolutionary new devices, and their associated metamaterial realizations.

Radio Science Aug 31 2020

ICICCT 2019 - System Reliability, Quality Control, Safety, Maintenance and Management Nov 21 2019

This book discusses reliability applications for power systems, renewable energy and smart grids and highlights trends in reliable communication, fault-tolerant systems, VLSI system design and embedded systems. Further, it includes chapters on software reliability and other computer engineering and software management-related disciplines, and also examines areas such as big data analytics and ubiquitous computing. Outlining novel, innovative concepts in applied areas of reliability in electrical, electronics and computer

engineering disciplines, it is a valuable resource for researchers and practitioners of reliability theory in circuit-based engineering domains.

Advances in Signal Processing and Communication

Aug 19 2019

This book is a collection of selected peer-reviewed papers presented at the International Conference on Signal Processing and Communication (ICSC 2018). It covers current research and developments in the fields of communications, signal processing, VLSI circuits and systems, and embedded systems. The book offers in-depth discussions and analyses of latest problems across different sub-fields of signal processing and communications. The contents of this book will prove to be useful for students, researchers, and professionals working in electronics and electrical engineering, as well as other allied fields.

Filter Design for Satellite Communications: Helical Resonator Technology

May 20 2022

This new book primarily addresses the needs of practicing RF and microwave engineers engaged with the design of distributed filters for telecommunication and sensing applications, with particular emphasis on the space sector. This is a contemporary and comprehensive approach to the design of microwave filters with helical resonators. The very detailed step-by-step approach used throughout the book allows you to quickly familiarize with the basic concepts of microwave filter design and confidently engage

with the design of helical resonator filters. In particular, several examples that present the design of filters for a wide frequency and applications range would provide a very useful tool at hand for the filter designer. Presenting you with cutting-edge design guidance, this is a complete reference for helical filter design.

Innovations in Smart Cities Applications Volume 4

Feb 05 2021

This proceedings book is the fourth edition of a series of works which features emergent research trends and recent innovations related to smart city presented at the 5th International Conference on Smart City Applications SCA20 held in Safranbolu, Turkey. This book is composed of peer-reviewed chapters written by leading international scholars in the field of smart cities from around the world. This book covers all the smart city topics including Smart Citizenship, Smart Education, Smart Mobility, Smart Healthcare, Smart Security, Smart Earth Environment & Agriculture, Smart Economy, Smart Factory and Smart Recognition Systems. This book contains a special section intended for Covid-19 pandemic researches. This book edition is an invaluable resource for courses in computer science, electrical engineering and urban sciences for sustainable development.

ACSM's Resources for the Health Fitness Specialist

Jun 16 2019

This valuable new resource is specifically designed for candidates for the ACSM's Certified Health

Fitness Specialist (HFS) and those personal trainers wanting to take their knowledge to the next level. It contains the latest material on health and fitness written by the entity setting the standard for scientifically based practice, The American College of Sports Medicine. The American College of sports medicine and exercise science organization in the world. More than 45,000 members are dedicated to advancing and integrating scientific research to provide educational and practical applications of exercise science and sports medicine.

Circularly Polarized

Antennas Jan 24 2020 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. **Microwave Journal** Jun 28 2020