A Survey On Channel Estimation In Mimo Ofdm Systems

This book introduces the theoretical elements at the basis ofvarious classes of algorithms commonly employed in the physicallayer (and, in part, in MAC layer) of wireless communicationssystems. It focuses on single user systems, so ignoring multipleaccess techniques. Moreover, emphasis is put on single-inputsingle-output (SISO) systems, although some relevant topics aboutmultiple-input multiple-output (MIMO) systems are also illustrated. Comprehensive wireless specific guide to algorithmictechniques Provides a detailed analysis of channel equalization andchannel coding for wireless applications Unique conceptual approach focusing in single user systems Covers algebraic decoding, modulation techniques, channelcoding and channel equalisation

This book constitutes the refereed proceedings of the First International Conference on Advanced Hybrid Information Processing, ADHIB 2017, held in Harbin, China, in July 2017. The 64 full papers were selected from 134 submissions and focus on advanced methods and applications for hybrid information processing.

This book includes original unpublished contributions presented at the International Conference on Data Analytics and Management (ICDAM 2020), held at Jan Wyzykowski University, Poland, during June 2020. The book covers the topics in data analytics, data management, big data, computational intelligence, and communication networks. The book presents innovative work by leading academics, researchers, and experts from industry which is useful for young researchers and students.

This book provides an overview of positioning technologies, applications and services in a format accessible to a wide variety of readers. Readers who have always wanted to understand how satellite-based positioning, wireless network positioning, inertial navigation, and their combinations work will find great value in this book. Readers will also learn about the advantages and disadvantages of different positioning methods, their limitations and challenges. Cognitive positioning, adding the brain to determine which technologies to use at device runtime, is introduced as well. Coverage also includes the use of position information for Location Based Services (LBS), as well as context-aware positioning services, designed for better user experience.

Select Proceedings of VCAS 2019

Multi-carrier Techniques For Broadband Wireless Communications: A Signal Processing Perspective

Cognitive Radio Oriented Wireless Networks and Wireless Internet

Recent Trends in Intelligent and Emerging Systems

6th International Technical Conference on Advances in Computing, Control and Industrial Engineering (CCIE 2021)

Wireless Communications Over Rapidly Time-Varying Channels

This book constitutes revised selected papers of the Third International Conference on Computing Science, Communication and

Security, COMS2 2022, held in Gandhinagar, India, in February 2022. Due to the COVID-19 pandemic the conference was held virtually. The 22 full papers were thoroughly reveiwed and selected from 143 submissions. The papers present ideas, and research results on the aspects of computing science, network communication, and security.

This book proposes promising mmWave solutions to promoting safe and reliable vehicular communications. The authors include topics such as channel estimation, multi-user transceiver design, and advanced index modulation. For channel estimation, unique channel properties and hybrid structures are first introduced, followed by the development of a doubly-sparse doubly-selective channel estimator. For multi-user transceiver design, the concept of hybrid block diagonalization (HBD) is first introduced, followed by a generic HBD-based transceiver design to maximize the system capacity. For advanced index modulation, the generalized beamspace modulation for uplink multi-user scenarios are first introduced, followed by the precoded beamspace modulation for the downlink. Finally, this book discusses open problems and future research directions to inspire further studies in the field of mmWave vehicular communications.

Optimization of adaptive signal processing algorithms for wireless communications is based on a model of the underlying propagation channel. In practice, this model is never known perfectly. For example, its parameters have to be estimated and are only known with significant errors. In this book, a systematic treatment of this practical design problem is provided.

This textbook takes a unified view of the fundamentals of wireless communication and explains cutting-edge concepts in a simple and intuitive way. An abundant supply of exercises make it ideal for graduate courses in electrical and computer engineering and it will also be of great interest to practising engineers.

Communications and Radar Signal Processing

MCCS 2020

Large MIMO Systems

Adaptation in Wireless Communications - 2 Volume Set

Proceedings of the 7th International Workshop Soft Computing Applications (SOFA 2016), Volume 2

Proceedings of ICDECT 2020

Orthogonal Frequency Division Multiplexing (OFDM) has been the waveform of choice for most wireless communications systems in the past 25 years. This book addresses the “what comes next? question by presenting the recently proposed waveform known as Orthogonal Time-Frequency-Space (OTFS), which offers a better alternative for high-mobility environments. The OTFS waveform is based on the idea that the mobile wireless channels can be effectively modelled in the delay-Doppler domain. This domain provides a sparse representation closely resembling the physical geometry of the wireless channel. The key physical parameters such as relative velocity and distance of the reflectors with respect to the receiver can be considered roughly invariant in the duration of a frame up to a few milliseconds. This enables the information symbols encoded in the delay-Doppler domain to experience a flat fading channel even when they are affected by multiple Doppler shifts present in high-mobility environments. Delay-Doppler Communications: Principles and Applications covers the fundamental concepts and the underlying principles of delay-Doppler communications. Readers familiar with OFDM will be able to quickly understand the key differences in delay-

Doppler domain waveforms that can overcome some of the challenges of high-mobility communications. For the broader readership with a basic knowledge of wireless communications principles, the book provides sufficient background to be self-contained. The book provides a general overview of future research directions and discusses a range of applications of delay-Doppler domain signal processing. With this book, the reader will be able to: Recognize the challenges of high-mobility channels affected by both multipath and multiple Doppler shifts in physical layer waveform design and performance; Understand the limitations of current multicarrier techniques such as OFDM in high-mobility channels; Recognize the mathematical and physical relations between the different domains for representing channels and waveforms: time-frequency, time-delay, delay-Doppler; Understand the operation of the key blocks of a delay-Doppler modulator and demodulator both analytically and by hands-on MATLAB examples; Master the special features and advantages of OTFS with regard to detection, channel estimation, MIMO, and multiuser MIMO; Realize the importance of delay-Doppler communications for current and future applications, e.g., 6G and beyond. This is the first book on delay-Doppler communications. It is written by three of the leading authorities in the field. It includes a wide range of applications.

This second volume, edited and authored by world leading experts, gives a review of the principles, methods and techniques of important and emerging research topics and technologies in communications and radar engineering. With this reference source you will: Quickly grasp a new area of research Understand the underlying principles of a topic and its application Ascertain how a topic relates to other areas and learn of the research issues yet to be resolved Quick tutorial reviews of important and emerging topics of research in array and statistical signal processing Presents core principles and shows their application Reference content on core principles, technologies, algorithms and applications Comprehensive references to journal articles and other literature on which to build further, more specific and detailed knowledge Edited by leading people in the field who, through their reputation, have been able to commission experts to write on a particular topic

The Internet of Things (IoT) has seen the eventual shift to the "Internet of Everything" in the recent years, unveiling its ubiquitous presence spanning from smart transports to smart healthcare, from smart education to smart shopping. With the 5G rollouts across the different countries of the world, it raises newer perspectives toward the integration of 5G in IoT. For IoT-based smart devices, 5G not only means speed, but also better stability, efficiency, and more secure connectivity. The reach of 5G in IoT is extending in multifarious areas like self-driving vehicles, smart grids for renewable energy, AI-enabled robots on factory floors, intelligent healthcare services . . . The endless list is the real future of 5G in IoT. Features: Fundamental and applied perspectives to 5G integration in IoT Transdisciplinary vision with aspects of Artificial Intelligence, Industry 4.0, and hands-on practice tools Discussion of trending research issues in 5G and IoT As 5G technologies catalyze a paradigm shift in the domain of IoT, this book serves as a reference for the researchers in the field of IoT and 5G, proffering the landscape to the trending aspects as well as the key topics of discussion in the years to come.

This book comprises select proceedings of the International Conference on VLSI, Communication and Signal processing (VCAS

2018). It looks at latest research findings in VLSI design and applications. The book covers a wide range of topics in electronics and communication engineering, especially in the area of microelectronics and VLSI design, communication systems and networks, and image and signal processing. The contents of this book will be useful to researchers and professionals alike.

Algorithmic Techniques

mmWave Massive MIMO Vehicular Communications

A Paradigm for 5G

Robust Signal Processing for Wireless Communications

Data Analytics and Management

Advances in Computing, Communication, Automation and Biomedical Technology

A Survey of Sparse Channel Estimation in Aeronautical Telemetry

As a result of higher frequencies and increased user mobility, researchers and systems designers are shifting their focus from time-invariant models to channels that vary within a block. Wireless Communications Over Rapidly Time-Varying Channels explains the latest theoretical advances and practical methods to give an understanding of rapidly time varying channels, together with performance trade-offs and potential performance gains, providing the expertise to develop future wireless systems technology. As well as an overview of the issues of developing wireless systems using time-varying channels, the book gives extensive coverage to methods for estimating and equalizing rapidly time-varying channels, including a discussion of training data optimization, as well as providing models and transceiver methods for time-varying ultra-wideband channels. An introduction to time-varying channel models gives in a nutshell the important issues of developing wireless systems technology using time-varying channels Extensive coverage of methods for estimating and equalizing rapidly time-varying channels, including a discussion of training data optimization, enables development of high performance wireless systems Chapters on transceiver design for OFDM and receiver algorithms for MIMO communication channels over time-varying channels, with an emphasis on modern iterative turbo-style architectures, demonstrates how these important technologies can optimize future wireless systems

Enabling Technologies for Next Generation Wireless Communications provides up-to-date information on emerging trends in wireless systems, their enabling technologies and their evolving application paradigms. This book includes the latest trends and developments toward next generation wireless communications. It highlights the requirements of next generation wireless systems, limitations of existing technologies in delivering those requirements and the need to develop radical new technologies. It focuses on bringing together information on various technological developments that are enablers vital to fulfilling the requirements of future wireless communication systems and their applications. Topics discussed include spectrum issues, network planning, signal processing, transmitter, receiver, antenna technologies, channel coding, security and application of machine learning and deep learning for wireless communication systems. The book also provides information on enabling business models for future wireless systems. This book is useful as a resource for researchers and practitioners worldwide, including industry practitioners,

technologists, policy decision-makers, academicians, and graduate students.

This book comprises select peer-reviewed papers from the International Conference on VLSI, Communication and Signal processing (VCAS) 2019, held at Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj, India. The contents focus on latest research in different domains of electronics and communication engineering, in particular microelectronics and VLSI design, communication systems and networks, and signal and image processing. The book also discusses the emerging applications of novel tools and techniques in image, video and multimedia signal processing. This book will be useful to students, researchers and professionals working in the electronics and communication domain.

Estimation of Flood Peaks from Channel Characteristics in Ohio

Third International Conference, COMS2 2022, Gujarat, India, February 6–7, 2022, Revised Selected Papers

Inventive Computation Technologies

Delay-Doppler Communications

Proceedings of ICISS 2022

COMSYS 2020

Space-time array communications have gained a great deal of interest in recent years. Its superior performance in practical multipath propagation environments has established it as a core aspect in next generation mobile networks, as well as several portable wireless communication systems. In fact the employment of the sensor array component has already been provided for in the current UMTS standard, and there is presently a major thrust to make space-time processing an important part of 3G/4G networks. This book hence attempts to bridge the knowledge gap, looking at the integration of two emerging technologies from an array manifold perspective — space-time array processing and spread spectrum multiple access communications. It covers a range of novel multiuser channel estimation and reception techniques, which is designed to provide mitigations of the various associated channel impairments in accordance to its environmental context. For convenience of the readers, the book is written in a self-contained modular format with its mathematical frameworks and tools readily extendable to other research domains./a

These two volumes constitute the Proceedings of the 7th International Workshop on Soft Computing Applications (SOFA 2016), held on 24–26 August 2016 in Arad, Romania. This edition was organized by Aurel Vlaicu University of Arad, Romania, University of Belgrade, Serbia, in conjunction with the Institute of Computer Science, Iasi Branch of the Romanian Academy, IEEE Romanian Section, Romanian Society of Control Engineering and Technical Informatics (SRAIT) - Arad Section, General Association of Engineers in Romania - Arad Section, and BTM Resources Arad. The soft computing concept was introduced by Lotfi Zadeh in 1991 and serves to highli ght the emergence of computing methodologies in which the accent is on exploiting the tolerance for imprecision and uncertainty to achieve

tractability, robustness and lower costs. Soft computing facilitates the combined use of fuzzy logic, neurocomputing, evolutionary computing and probabilistic computing, leading to the concept of hybrid intelligent systems. The rapid emergence of new tools and applications calls for a synergy of scientific and technological disciplines in order to reveal the great potential of soft computing in all domains. The conference papers included in these proceedings, published post-conference, were grouped into the following areas of research: • Methods and Applications in Electrical Engineering • Knowledge-Based Technologies for Web Applications, Cloud Computing, Security Algorithms and Computer Networks • Biomedical Applications • Image, Text and Signal Processing • Machine Learning and Applications • Business Process Management • Fuzzy Applications, Theory and Fuzzy Control • Computational Intelligence in Education • Soft Computing & Fuzzy Logic in Biometrics (SCFLB) • Soft Computing Algorithms Applied in Economy, Industry and Communication Technology • Modelling and Applications in Textiles The book helps to disseminate advances in selected active research directions in the field of soft computing, along with current issues and applications of related topics. As such, it provides valuable information for professors, researchers and graduate students in the area of soft computing techniques and applications.

This book features research papers presented at the 5th International Conference on Intelligent Sustainable Systems (ICISS 2022), held at SCAD College of Engineering and Technology, Tirunelveli, Tamil Nadu, India, during February 17–18, 2022. The book discusses latest research works that discusses the tools, methodologies, practices, and applications of sustainable systems and computational intelligence methodologies. The book is beneficial for readers from both academia and industry.

This exclusive coverage of the opportunities, technological challenges, solutions, and state of the art of large MIMO systems provides an in-depth discussion of algorithms for large MIMO signal processing, suited for large MIMO signal detection, precoding and LDPC code designs. An ideal resource for researchers, designers, developers and practitioners in wireless communications.

Data Engineering and Communication Technology

Soft Computing Applications

Principles and Applications

A Survey of Sparse Channel Estimation in Aeronautical Telemetry

Foundations of User-Centric Cell-Free Massive MIMO

Intelligent Sustainable Systems

With the intriguing development of technologies in several industries, along with the advent of ubiquitous computational resources, there are

now ample opportunities to develop innovative computational technologies in order to solve a wide range of issues concerning uncertainty, imprecision, and vagueness in various real-life problems. The challenge of blending modern computational techniques with traditional computing methods has inspired researchers and academics alike to focus on developing innovative computational techniques. In the near future, computational techniques may provide vital solutions by effectively using evolving technologies such as computer vision, natural language processing, deep learning, machine learning, scientific computing, and computational vision. A vast number of intelligent computational algorithms are emerging, along with increasing computational power, which has significantly expanded the potential for developing intelligent applications. These proceedings of the International Conference on Inventive Computation Technologies [ICICT 2019] cover innovative computing applications in the areas of data mining, big data processing, information management, and security.

Multi-Carrier Techniques for Broadband Wireless Communications provides an accessible introduction to OFDM-based systems from a signal processing perspective. The first part presents a concise treatment of some fundamental concepts related to wireless communications and multicarrier systems, while the second offers a comprehensive survey of recent developments on a variety of critical design issues. These include synchronization techniques, channel estimation methods, adaptive resource allocation and practical schemes for reducing the peak-to-average power ratio of the transmitted waveform./a

With increased consumer use and adoption, mobile communication technologies are faced with the challenge of creating an adequate wireless networking architecture that can support a high degree of scalability, performance, and reliability in a cost-effective manner without comprising security or quality of service. Self-Organized Mobile Communication Technologies and Techniques for Network Optimization explores self-organizing networks (SONs) as a proposed solution for the automation of mobile communication tasks that currently require significant efforts for planning, operation, and management. Emphasizing research on the latest generation of mobile communication networks, the 5th generation (5G), this publication proposes timely solutions and presents the latest developments in the field of mobile communication technologies. IT developers, engineers, graduate-level students, and researchers will find this publication to be essential to their research needs.

This is volume 1 of a 2 volume set. This volume focuses on "channel estimation and equalization."

Advanced Hybrid Information Processing

Wireless Communications

Proceedings of ICDAM

Multi-Technology Positioning

5G and Beyond

Proceeding of Fifth International Conference on Microelectronics, Computing and Communication Systems

The widespread use of adaptation techniques has helped to meet the increased demand for new applications. From adaptive signal processing to cross layer design, Adaptation in Wireless Communications covers all aspects of adaptation in wireless communications in a two-volume set. Each volume provides a unified framework for understanding adaptation and relates various specializations

through common terminologies. In addition to simplified state-of-the-art cross layer design approaches, they also describe advanced techniques, such as adaptive resource management, 4G communications, and energy and mobility aware MAC protocols.

Advances in Computing, Communication, Automation and Biomedical Technology aims to bring together leading academic, scientists, researchers, industry representatives, postdoctoral fellows and research scholars around the world to share their knowledge and research expertise, to advances in the areas of Computing, Communication, Electrical, Civil, Mechanical and Biomedical Systems as well as to create a prospective collaboration and networking on various areas. It also provides a premier interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered, and solutions adopted in the fields of innovation.

This book presents the latest techniques for the design of antenna, focusing specifically on the microstrip antenna. The authors discuss antenna structure, defected ground, MIMO, and fractal design. The book provides the design of microstrip antenna in terms of latest applications and uses in areas like IoT and device-to-device communication. The book also provides the current methods and techniques used for the enhancement of the performance parameters of the microstrip antenna. Chapters enhance the knowledge and skills of students and researchers in the latest in the communications world like IoT, D2D, satellite, wearable devices etc. The authors discuss applications such as microwave imaging, medical implants, hyperthermia treatments, and wireless wellness monitoring and how a decrease in size of antenna help facilitate application potential. Provides the latest techniques used for the design of antenna in terms of its structure, defected ground, MIMO and fractal design; Outlines steps to resolve issues with designing antenna, including the latest design and design parameters for microstrip antenna; Presents the design of conformal and miniaturized antenna structures for various applications.

The book features original papers from International Conference on Expert Clouds and Applications (ICOECA 2022), organized by GITAM School of Technology, Bangalore, India, during 3–4 February 2022. It covers new research insights on artificial intelligence, big data, cloud computing, sustainability, knowledge-based expert systems. The book discusses innovative research from all aspects including theoretical, practical, and experimental domains that pertain to the expert systems, sustainable clouds, and artificial intelligence technologies.

Academic Press Library in Signal Processing

The Future of IoT

Signal Processing Advances in Wireless and Mobile Communications: Trends in channel estimation and equalization

Select Proceedings of VCAS 2018

First International Conference, ADHIP 2017, Harbin, China, July 17–18, 2017, Proceedings

The broadband wireless communications field is growing at an explosive rate, stimulated by a host of important emerging applications ranging from 3G, 4G and wireless LAN. For system planners and designers, the projections of rapidly escalating demand for such wireless services present major challenges and meeting these challenges will require sustained technical innovation on many fronts. The aim of this book is to provide a R&D perspective on the field of broadband wireless communications by describing the recent research developments in this area and also by identifying key directions in which further research is needed.

This book gathers outstanding research papers presented at the International Conference on Frontiers in Computing and Systems (COMSYS 2020), held on January 13–15, 2019 at Jalpaiguri Government Engineering College, West Bengal, India and jointly organized by the Department of Computer Science & Engineering and Department of Electronics & Communication Engineering. The book presents the latest research and results in various fields of machine learning, computational intelligence, VLSI, networks and systems, computational biology, and security, making it a rich source of reference material for academia and industry alike.

Modern day cellular mobile networks use Massive MIMO technology to extend range and service multiple devices within a cell. This has brought tremendous improvements in the high peak data rates that can be handled. Nevertheless, one of the characteristics of this technology is large variations in the quality of service dependent on where the end user is located in any given cell. This becomes increasingly problematic when we are creating a society where wireless access is supposed to be ubiquitous. When payments, navigation, entertainment, and control of autonomous vehicles are all relying on wireless connectivity the primary goal for future mobile networks should not be to increase the peak rates, but the rates that can be guaranteed to the vast majority of the locations in the geographical coverage area. The cellular network architecture was not designed for high-rate data services but for low-rate voice services, thus it is time to look beyond the cellular paradigm and make a clean-slate network design that can reach the performance requirements of the future. This monograph considers the cell-free network architecture that is designed to reach the aforementioned goal of uniformly high data rates everywhere. The authors introduce the concept of a cell-free network before laying out the foundations of what is required to design and build such a network. They cover the foundations of channel estimation, signal processing, pilot assignment, dynamic cooperation cluster formation, power optimization, fronthaul signaling, and spectral efficiency evaluation in uplink and downlink under different degrees of cooperation among the access points and arbitrary linear combining and precoding. This

monograph provides the reader with all the fundamental information required to design and build the next generation mobile networks without being hindered by the inherent restrictions of modern cellular-based technology. This proceedings focus on selected aspects of recent advances and experiences, emerging technology trends that have positively impacted our world from operators, authorities and associations from around the world to help address the world ' s computing, control and industrial engineering. Meanwhile, although the group that studies Computing, Control and Industrial Engineering is very large, the topics included into this proceedings have the extremely high research value. The program chair, speakers, and editors of this conference are well-known person in the industry, and CCIE2021 will also strictly select articles when calling for papers.

Enabling Technologies for Next Generation Wireless Communications

Broadband Wireless Communications

mmWave Massive MIMO

Advances in VLSI, Communication, and Signal Processing

Smart Antennas

Expert Clouds and Applications

This book includes selected papers presented at the 4th International Conference on Data Engineering and Communication Technology (ICDECT 2020), held at Kakatiya Institute of Technology & Science, Warangal, India, during 25-6 September 2020. It features advanced, multidisciplinary research towards the design of smart computing, information systems and electronic systems. It also focuses on various innovation paradigms in system knowledge, intelligence and sustainability which can be applied to provide viable solutions to diverse problems related to society, the environment and industry.

This book presents high-quality papers from the Fifth International Conference on Microelectronics, Computing & Communication Systems (MCCS 2020). It discusses the latest technological trends and advances in MEMS and nanoelectronics, wireless communication, 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 here provide excellent reference material for future product development.

Aeronautical telemetry suffers from multipath interference, which can be resolved through the use of equalizers at

the receiver. The coefficients of data-aided equalizers are computed from a channel estimate. Most channels seen in aeronautical telemetry are sparse, meaning that most of the coefficients of the channel are zero or nearly zero. The maximum likelihood (ML) estimate does not always produce a sparse channel estimate. This thesis surveys a number of sparse estimation algorithms that produce a sparse channel estimate and compares the post-equalizer bit error rates (BER) using these sparse estimates with the post-equalizer BER using the ML estimate. I show that the generalized Orthogonal Matching Pursuit (GOMP) performs the best followed by the Sparse Estimation based on Validation Re-estimated Least Squares (SPARSEVA-RE) and the Least Absolute Shrinkage and Selection Operator (LASSO).

It is a compilation of research works related to intelligent and emerging system design using a range of tools including soft-computation. The book includes reviews, actual designs, research works, discussion and experimental results related to works in the areas of communication, computation, vision sciences, bio-inspired system design, social dynamic, related process design, etc. The audience of this book is expected to be researchers who deal with intelligent and emerging system design through mathematical and computational modeling and experimental designs. Specifically, audiences that are broadly involved in the domains of electronics and communication, electrical engineering, mathematics, computer science, other applied informatics domains and related areas will find the book interesting. The works included in the book broadly covers all areas of Electronics and Communication Engineering and Technology, Soft-computational Applications, Human Computer Interactive Designs and Social and Economic Dynamics. The works included in the volume have been grouped into Communication, Biomedical and Social Science, HCI and Bio-inspired System Design, Speech Processing and Review totaling sixteen contributions.

Computing Science, Communication and Security

3G, 4G and Wireless LAN

Proceedings of International Conference on Frontiers in Computing and Systems

Joint Channel and Frequency Offset Estimation for Wireless Communications

Enabling 6G Mobile Networks

Fundamentals of Wireless Communication

mmWave Massive MIMO: A Paradigm for 5G is the first book of its kind to hinge together related discussions on mmWave and Massive MIMO under the umbrella of 5G networks. New networking scenarios are identified, along with fundamental design requirements for mmWave Massive MIMO networks from an architectural and practical perspective. Working towards final deployment, this book updates the research community on the current mmWave Massive MIMO roadmap, taking into account the

future emerging technologies emanating from 3GPP/IEEE. The book's editors draw on their vast experience in international research on the forefront of the mmWave Massive MIMO research arena and standardization. This book aims to talk openly about the topic, and will serve as a useful reference not only for postgraduates students to learn more on this evolving field, but also as inspiration for mobile communication researchers who want to make further innovative strides in the field to mark their legacy in the 5G arena. Contains tutorials on the basics of mmWave and Massive MIMO Identifies new 5G networking scenarios, along with design requirements from an architectural and practical perspective Details the latest updates on the evolution of the mmWave Massive MIMO roadmap, considering future emerging technologies emanating from 3GPP/IEEE Includes contributions from leading experts in the field in modeling and prototype design for mmWave Massive MIMO design Presents an ideal reference that not only helps postgraduate students learn more in this evolving field, but also inspires mobile communication researchers towards further innovation

Space-time Array Communications: Vector Channel Estimation And Reception

Self-Organized Mobile Communication Technologies and Techniques for Network Optimization

16th EAI International Conference, CROWNCOM 2021, Virtual Event, December 11, 2021, and 14th EAI International Conference, WiCON 2021, Virtual Event, November 9, 2021, Proceedings

Proceedings of ICOECA 2022

Latest Trends in Design and Application