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Wireless OFDM Systems - Marc Engels 2006-04-18
From the reviews: "This book [...] gives a comprehensive overview of the implementation of OFDM systems. [...] For those who study or work on broadband communication in a wireless multipath environment, this book is a useful and easy-to-read reference. [...]" (Zongsen Wu, Shaowen Song and Tianying Ji, Physics and Computing Dept., Wilfrid Laurier University, ON)

Proceedings etc2014 - The European Society of Telemetry 2014-11-12
The European Telemetry and Test Conference etc2014 took place in Nuremberg in June 2nd-5th, 2014. Over 50 Technical Papers were presented in 10 Technical Sessions, highlighting the most recent innovations in methods, systems, and instrumentation from industry, researchers and laboratories all around the world. More than 50 companies attended the etc2014 exhibition and offered unique opportunities for technical discussions. Within the etc-Village, they presented numerous innovations, among others around new sensors and data acquisition architectures, Ethernet video solutions, C-band telemetry. This international success has been confirmed by the feedback of the participants: more than 85% were satisfied about the information offered in the Technical Sessions and the etc2014 Exhibition, the organisation and the location of the Conference. Organised for the first time in cooperation with SENSOR + TEST, the internationally leading trade fair for sensors, measuring, and testing technology, the new form of etc2014 opened the door to further 500+ exhibitors; potentially interesting for the daily and future applications of the telemetry professionals.

OFDM for Optical Communications - William Shieh 2009-09-18
The first book on optical OFDM by the leading pioneers in the field The only book to cover error correction codes for optical OFDM Gives applications of OFDM to free-space communications, optical access networks, and metro and log haul transports show optical OFDM can be implemented Contains introductions to signal processing for optical engineers and optical communication fundamentals for wireless engineers This book gives a coherent and comprehensive introduction to the fundamentals of OFDM signal processing, with a distinctive focus on its broad range of applications. It evaluates the architecture, design and performance of a number of OFDM variations, discusses coded OFDM, and gives a detailed study of error correction codes for access networks, 100 Gb/s Ethernet and future optical networks. The emerging applications of optical OFDM, including single-mode fiber transmission, multimode fiber transmission, free space optical systems, and optical access networks are examined, with particular attention paid to passive optical networks, radio-over-fiber, WiMAX and UWB communications. Written by two of the leading contributors to the field, this book will be a unique reference for optical communications engineers and scientists. Students, technical managers and telecom executives seeking to understand this new technology for future-generation optical networks will find the book invaluable. William Shieh is an associate professor and reader in the electrical and electronic engineering department, The University of Melbourne, Australia. He received his M.S. degree in electrical engineering and Ph.D. degree in physics both from University of Southern California. Ivan Djordjevic is an Assistant Professor of Electrical and Computer Engineering at the University of Arizona, Tucson, where he directs the Optical Communications Systems Laboratory (OCSL). His current research interests include optical networks, error control coding, constrained coding, coded modulation, turbo equalization, OFDM applications, and quantum error correction. "This wonderful book is the first one to address the rapidly emerging optical OFDM field.

Written by two leading researchers in the field, the book is structured to comprehensively cover any optical OFDM aspect one could possibly think of, from the most fundamental to the most specialized. The book adopts a coherent line of presentation, while striking a thoughtful balance between the various topics, gradually developing the optical-physics and communication-theoretic concepts required for deep comprehension of the topic, eventually treating the multiple optical OFDM methods, variations and applications. In my view this book will remain relevant for many years to come, and will be increasingly accessed by graduate students, accomplished researchers as well as telecommunication engineers and managers keen to attain a perspective on the emerging role of OFDM in the evolution of photonic networks." -- Prof. Moshe Nazarathy, EE Dept., Technion, Israel Institute of Technology * The first book on optical OFDM by the leading pioneers in the field * The only book to cover error correction codes for optical OFDM * Applications of OFDM to free-space communications, optical access networks, and metro and log haul transports show optical OFDM can be implemented * An introduction to signal processing for optical communications * An introduction to optical communication fundamentals for the wireless engineer

Proceedings of the 26th Conference of Spacecraft TT&C Technology in China - Rongjun Shen 2012-09-29
'Proceedings of the 26th Conference of Spacecraft TT&C Technology in China' collects selected papers from the 26th Conference of Spacecraft TT&C Technology in China held in Nanjing on October 16-19, 2012. The book features state-of-the-art studies on spacecraft TT&C in China with the theme of "Shared and Flexible TT&C Systems". The selected works can help promote the technologies in standardization, informatization, communication networks and intelligence. Researchers and engineers in the field of aerospace engineering and communication engineering can benefit from the book. SHEN Rongjun is the Academician of Chinese Academy of Engineering; QIAN Weiping is the Director General of Beijing Institute of Tracking and Telecommunications Technology.

Proceedings of the International e-Conference on Intelligent Systems and Signal Processing - Falgun Thakkar 2021-08-13
This book provides insights into the Third International Conference on Intelligent Systems and Signal Processing (eISSP 2020) held By Electronics & Communication Engineering Department of G H Patel College of Engineering & Technology, Gujarat, India, during 28–30 December 2020. The book comprises contributions by the research scholars and academicians covering the topics in signal processing and communication engineering, applied electronics and emerging technologies, Internet of Things (IoT), robotics, machine learning, deep learning and artificial intelligence. The main emphasis of the book is on dissemination of information, experience and research results on the current topics of interest through in-depth discussions and contribution of researchers from all over world. The book is useful for research community, academicians, industrialists and postgraduate students across the globe.

Wireless and Satellite Systems - Qing Guo 2022
This book constitutes the refereed post-conference proceedings of the 12th International Conference on Wireless and Satellite Services, WiSATS 2021, held in Nanjing, China, in September 2020. Due to COVID-19 pandemic the conference was held virtually. The 79 full papers were carefully reviewed and selected from 140 submissions. The conference's central theme is the means of using the wireless and satellite services directly to the user for personal communications, multimedia and location identification. The services enabled by WiSATS not only cover the requirements of an ordinary citizen but also provide

personal and public services for global coverage communications as the applications of internet of things. .

Wireless Communications and Networking for Unmanned Aerial Vehicles - Walid Saad 2020-04-02
"The past few years witnessed a major revolution in the area of unmanned aerial vehicles (UAVs), commonly known as drones, due to significant technological advances across various drone-related fields ranging from embedded systems to autonomy, control, security, and communications. These unprecedented recent advances in UAV technology have made it possible to widely deploy drones across a plethora of application domains ranging from delivery of goods to surveillance, environmental monitoring, track control, remote sensing, and search and rescue. In fact, recent reports from the Federal Aviation Administration (FAA) anticipate that sales of UAVs may exceed 7 million in 2020 and many industries are currently investing in innovative drone-centric applications and research. To enable all such applications, it is imperative to address a plethora of research challenges pertaining to drone systems, ranging from navigation to autonomy, control, sensing, navigation, and communications. In particular, the deployment of UAVs in tomorrow's smart cities, is largely contingent upon equipping them with effective means for communications and networking. To this end, in this book, we provide a comprehensive treatment of the wireless communications and networking research challenges and opportunities associated with UAV technology. This treatment begins in this chapter which provides an introduction to UAV technology and an in-depth discussion on the wireless communication and networking challenges associated with the introduction of UAVs"--

Computational Science and Its Applications – ICCSA 2022 - Osvaldo Gervasi 2022-07-14
The eight-volume set LNCS 13375 – 13382 constitutes the proceedings of the 22nd International Conference on Computational Science and Its Applications, ICCSA 2022, which was held in Malaga, Spain during July 4 – 7, 2022. The first two volumes contain the proceedings from ICCSA 2022, which are the 57 full and 24 short papers presented in these books were carefully reviewed and selected from 279 submissions. The other six volumes present the workshop proceedings, containing 285 papers out of 815 submissions. These six volumes includes the proceedings of the following workshops: Advances in Artificial Intelligence Learning Technologies: Blended Learning, STEM, Computational Thinking and Coding (AAILT 2022); Workshop on Advancements in Applied Machine-learning and Data Analytics (AAMDA 2022); Advances in information Systems and Technologies for Emergency management, risk assessment and mitigation based on the Resilience (ASTER 2022); Advances in Web Based Learning (AWBL 2022); Blockchain and Distributed Ledgers: Technologies and Applications (BDLTA 2022); Bio and Neuro inspired Computing and Applications (BIONCA 2022); Configurational Analysis For Cities (CA Cities 2022); Computational and Applied Mathematics (CAM 2022), Computational and Applied Statistics (CAS 2022); Computational Mathematics, Statistics and Information Management (CMSIM); Computational Optimization and Applications (COA 2022); Computational Astrochemistry (CompAstro 2022); Computational methods for porous geomaterials (CompPor 2022); Computational Approaches for Smart, Conscious Cities (CASCC 2022); Cities, Technologies and Planning (CTP 2022); Digital Sustainability and Circular Economy (DiSCE 2022); Econometrics and Multidimensional Evaluation in Urban Environment (EMEUE 2022); Ethical AI applications for a human-centered cyber society (EthicAI 2022); Future Computing System Technologies and Applications (FiSTA 2022); Geographical Computing and Remote Sensing for Archaeology (GCRSArcheo 2022); Geodesign in Decision Making: meta planning and collaborative design for sustainable and inclusive development (GDM 2022); Geomatics in Agriculture and Forestry: new advances and perspectives (GeoForAgr 2022); Geographical Analysis, Urban Modeling, Spatial Statistics (Geog-An-Mod 2022); Geomatics for Resource Monitoring and Management (GRMM 2022); International Workshop on Information and Knowledge in the Internet of Things (IKIT 2022); 13th International Symposium on Software Quality (ISSQ 2022); Land Use monitoring for Sustanability (LUMS 2022); Machine Learning for Space and Earth Observation Data (MALSEOD 2022); Building multi-dimensional models for assessing complex environmental systems (MES 2022); MOdels and indicators for assessing and measuring the urban settlement deVElopment in the view of ZERO net land take by 2050 (MOVEto0 2022); Modelling Post-Covid cities (MPCC 2022); Ecosystem Services: nature's contribution to people in practice. Assessment frameworks, models, mapping, and implications (NC2P 2022); New Mobility Choices For Sustainable and Alternative Scenarios (NEMOB 2022); 2nd Workshop on Privacy in the Cloud/Edge/IoT World (PCEIoT 2022); Psycho-Social Analysis of Sustainable Mobility in The Pre- and Post-Pandemic Phase (PSYCHE 2022); Processes, methods and tools towards RESilient cities and cultural heritage prone to SOD and ROD disasters (RES 2022); Scientific Computing Infrastructure (SCI 2022); Socio-Economic and Environmental Models for Land Use Management (SEMLUM 2022); 14th International Symposium on Software Engineering Processes and Applications (SEPA 2022); Ports of the future - smartness and sustainability (SmartPorts 2022); Smart Tourism (SmartTourism 2022); Sustainability Performance Assessment: models, approaches and applications toward interdisciplinary and integrated solutions (SPA 2022); Specifics of smart cities development in Europe (SPEED 2022); Smart and Sustainable Island Communities (SSIC 2022); Theoretical and Computational Chemistryand its Applications (TCCMA 2022); Transport Infrastructures for Smart Cities (TISC 2022); 14th International Workshop on Tools and Techniques in Software Development Process (TTSDP 2022); International Workshop on Urban Form Studies (UForm 2022); Urban Regeneration: Innovative Tools and Evaluation Model (URITEM 2022); International Workshop on Urban Space and Mobilities (USAM 2022); Virtual and Augmented Reality and Applications (VRA 2022); Advanced and Computational Methods for Earth Science Applications (WACM4ES 2022); Advanced Mathematics and Computing Methods in Complex Computational Systems (WAMCM 2022).

Wireless and Satellite Systems - Min Jia 2019-05-06
This two-volume set LNICST 280-281 constitutes the post-conference proceedings of the 10th EAI International Conference on Wireless and Satellite Services, WiSATS 2019, held in Harbin, China, in January 2019. The conference was formerly known as the International Conference on Personal Satellite Services (PSATS) mainly covering topics in the satellite domain. The 137 full papers were carefully reviewed and selected from 289 submissions. The papers are organized in topical sections on machine learning for satellite-terrestrial networks, human-machine interactive sensing, monitoring, and communications, integrated space and onboard networks, intelligent signal processing, wireless communications and networks, vehicular communications and networks, intelligent 5G communication and digital image processing technology, security, reliability and resilience in internet of things, advances in communications and computing for internet of things.

Information Technology - New Generations - Shahram Latifi 2017-07-15
This volume presents a collection of peer-reviewed, scientific articles from the 14th International Conference on Information Technology – New Generations, held at the University of Nevada at Las Vegas on April 10–12, at Tuscany Suites Hotel in Las Vegas. The Book of Chapters addresses critical areas of information technology including web technology, communications, computing architectures, software engineering, security, and data mining.

Digital Signal Processing for Wireless Communication using Matlab - E.S. Gopi 2021-10-21
The updated book presents Matlab illustrations on various digital signal processing (DSP) techniques such as random process, time varying wireless system model, and detection and estimation theory used in wireless communication. The book also covers recent wireless techniques like OFDM, massive MIMO techniques, non-orthogonal multiple access, millimeter wave MIMO, full duplex, cognitive radio, co-operating communication, unmanned aerial vehicles etc. This book is suitable for those who are doing basic and applied research in digital signal processing for wireless communication.

Physical Layer Security - Khoa N. Le 2021-02-04
This book studies the vulnerability of wireless communications under line-of-sight (LoS) and non-LoS correlated fading environments. The authors theoretically and practically provide physical layer security analyses for several technologies and networks such as Fifth-Generation (5G) networks, Internet of Things (IoT) applications, and Non-orthogonal multiple access (NOMA). The authors have provided these under various practical scenarios, and developed theoretical aspects to validate their proposed applications. Presents physical layer security (PLS) under correlated fading environments, 5G wireless networks, and NOMA networks; Provides end-to-end analyses, combination of channel correlation and outdated CSI and their effects on PL; Includes contributions of PLS research written by global experts in academia and industry.

Wireless and Satellite Systems - Min Jia 2019-05-07

This two-volume set LNICST 280-281 constitutes the post-conference proceedings of the 10th EAI International Conference on Wireless and Satellite Services, WiSATS 2019, held in Harbin, China, in January 2019. The conference was formerly known as the International Conference on Personal Satellite Services (PSATS) mainly covering topics in the satellite domain. The 137 full papers were carefully reviewed and selected from 289 submissions. The papers are organized in topical sections on machine learning for satellite-terrestrial networks, human-machine interactive sensing, monitoring, and communications, integrated space and onboard networks, intelligent signal processing, wireless communications and networks, vehicular communications and networks, intelligent 5G communication and digital image processing technology, security, reliability and resilience in internet of things, advances in communications and computing for internet of things.

Signal Processing and Information Technology - Vinu V. Das 2014-11-06
This book constitutes the thoroughly refereed post-conference proceedings of the Second International Joint Conference in Signal Processing and Information Technology, SPIT 2012, held in Dubai, UAE, in September 2012. The 32 papers included in this volume were carefully reviewed and selected from 330 submissions. The papers cover research and development activities in computer science, information technology, computational engineering, image and signal processing, and communication.

FPGA-based Digital Convolution for Wireless Applications - Lei Guan 2017-01-16
This book presents essential perspectives on digital convolutions in wireless communications systems and illustrates their corresponding efficient real-time field-programmable gate array (FPGA) implementations. FPGAs or generic all programmable devices will soon become widespread, serving as the "brains" of all types of real-time smart signal processing systems, like smart networks, smart homes and smart cities. The book examines digital convolution by bringing together the following main elements: the fundamental theory behind the mathematical formulae together with corresponding physical phenomena; virtualized algorithm simulation together with benchmark real-time FPGA implementations; and detailed, state-of-the-art case studies on wireless applications, including popular linear convolution in digital front ends (DFEs); nonlinear convolution in digital pre-distortion (DPD) enabled high-efficiency wireless RF transceivers; and fast linear convolution in massive multiple-input multiple-output (MIMO) systems. After reading this book, students and professionals will be able to: · Understand digital convolution with inside-out information: discover what convolution is, why it is important and how it works. · Enhance their FPGA design skills, i.e., enhance their FPGA-related prototyping capability with model-based hands-on examples. · Rapidly expand their digital signal processing (DSP) blocks: to examine how to rapidly and efficiently create (DSP) functional blocks on a programmable FPGA chip as a reusable intellectual property (IP) core. · Upgrade their expertise as both "thinkers" and "doers": minimize/close the gap between mathematical equations and FPGA implementations for existing and emerging wireless applications.

UAV Swarm Networks: Models, Protocols, and Systems - Fei Hu 2020-12-28
UAV swarm network has been used in many critical applications, such as disaster recovery, area surveillance, weather monitoring, and military communications. There are many challenging R&D issues in UAV network designs, such as the hardware/software integration for a large-scale UAV network management, long-distance data transmissions among UAVs, swarm shape/formation control, and intelligent UAV mobility/position prediction. This book will be the first one to cover the engineering designs (especially network protocol designs) for dynamic, large-scale UAV network. It has the technical models/algorithms and protocol specifications for practical UAV swarm network deployment. Features: Includes chapters written by professors, researchers, engineers, and experts in UAV networking fields Details network protocol descriptions for practical engineering designs Covers 7-layer protocols (particularly data routing layer) Presents novel AI models/algorithms for intelligent UAV swarming/networking control Highlights practical hardware/software implementations for advanced UAV networks This book is suitable to a variety of audiences: (1) industry UAV R&D engineers, administrators, or technicians, who would like to grasp the latest trends in UAV communications; (2) college graduate students or researchers, who may want to pursue some advanced research on large-scale UAV swarming and networking technologies; (3) government agencies that determine the future society development in this exciting field; and (4) other interested readers with a strong desire to understand the challenges of

designing a QoS-oriented UAV network. The book editors are: Dr. Fei Hu, Professor in Electrical and Computer Engineering at University of Alabama, Tuscaloosa, Alabama, USA; Dr. Xin-Lin Huang, Professor in Information and Communication Engineering, Tongji University, Shanghai, China; and Dr. DongXiu Ou, Professor in Transportation Information Institute at Tongji University, Shanghai, China.

2018 IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) - IEEE Staff 2018-09-09
The Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) is one of the premier conferences in the wireless research arena and has a long history of bringing together academia, industry and regulatory bodies Today, it has become one of the IEEE Communication Society s major conferences in wireless communications and networks The topics cover the physical layer (PHY) and fundamentals of wireless communications, medium access control (MAC) and cross layer design, mobile and wireless networks, as well as services, applications, and business

Unmanned Aerial Vehicle Cellular Communications - Agbotiname Lucky Imoize 2022-10-11
The book discusses how Unmanned Aerial Vehicles (UAVs) can leverage the sub-6 GHz massive MIMO to address cell selection and interference issues in future wireless networks. The book takes a close look at utilizing UAVs to achieving direct and efficient device-to device (D2D) communications in the sky. Also, the key 6G enablers (cell-free architectures, artificial intelligence, reconfigurable intelligent surfaces, THz communications, and non-terrestrial networks) for UAV communication are broached, and the primary technological challenges of each enabler are discussed extensively. Furthermore, the book covers the design of adaptable UAVs to operate in diverse and harsh environmental conditions. Additionally, the existing UAVs' networking protocols and how these can be greatly enhanced to address the issue of intermittent network changes and channel impairments are discussed. The prospects and societal benefits envisioned in future UAVs are also presented.

UAV Communications for 5G and Beyond - Yong Zeng 2020-12-14
Explore foundational and advanced issues in UAV cellular communications with this cutting-edge and timely new resource UAV Communications for 5G and Beyond delivers a comprehensive overview of the potential applications, networking architectures, research findings, enabling technologies, experimental measurement results, and industry standardizations for UAV communications in cellular systems. The book covers both existing LTE infrastructure, as well as future 5G-and-beyond systems. UAV Communications covers a range of topics that will be of interest to students and professionals alike. Issues of UAV detection and identification are discussed, as is the positioning of autonomous aerial vehicles. More fundamental subjects, like the necessary tradeoffs involved in UAV communication are examined in detail. The distinguished editors offer readers an opportunity to improve their ability to plan and design for the near-future, explosive growth in the number of UAVs, as well as the correspondingly demanding systems that come with them. Readers will learn about a wide variety of timely and practical UAV topics, like: Performance measurement for aerial vehicles over cellular networks, particularly with respect to existing LTE performance Inter-cell interference coordination with drones Massive multiple-input and multiple-output (MIMO) for Cellular UAV communications, including beamforming, null-steering, and the performance of forward-link C&C channels 3GPP standardization for cellular-supported UAVs, including UAV traffic requirements, channel modeling, and interference challenges Trajectory optimization for UAV communications Perfect for professional engineers and researchers working in the field of unmanned aerial vehicles, UAV Communications for 5G and Beyond also belongs on the bookshelves of students in masters and PhD programs studying the integration of UAVs into cellular communication systems.

Environmental Perception Technology for Unmanned Systems - Xin Bi 2020-09-30
This book focuses on the principles and technology of environmental perception in unmanned systems. With the rapid development of a new generation of information technologies such as automatic control and information perception, a new generation of robots and unmanned systems will also take on new importance. This book first reviews the development of autonomous systems and subsequently introduces readers to the technical characteristics and main technologies of the sensor. Lastly, it addresses aspects including autonomous path planning, intelligent perception and autonomous control technology under uncertain conditions. For the first time, the book systematically introduces the core technology of

autonomous system information perception.

IoT Architectures, Models, and Platforms for Smart City Applications - Chowdhry, Bhawani Shankar 2019-12-27

Developing countries are persistently looking for efficient and cost-effective methods for transforming their communities into smart cities. Unfortunately, energy crises have increased in these regions due to a lack of awareness and proper utilization of technological methods. These communities must explore and implement innovative solutions in order to enhance citizen enrollment, quality of government, and city intelligence. IoT Architectures, Models, and Platforms for Smart City Applications provides emerging research exploring the theoretical and practical aspects of transforming cities into intelligent systems using IoT-based design models and sustainable development projects. This publication looks at how cities can be built as smart cities within limited resources and existing advanced technologies. Featuring coverage on a broad range of topics such as cloud computing, human machine interface, and ad hoc networks, this book is ideally designed for urban planners, engineers, IT specialists, computer engineering students, research scientists, academicians, technology developers, policymakers, researchers, and designers seeking current research on smart applications within urban development.

Wireless Communications 3rd Edition - Andreas F. Molisch 2022-12-06

"Wireless communications is one of the most important modern technologies and is interwoven with all aspects of our daily lives. When we wake up, we check social media, email, and news on our smartphones. Before getting up, we adjust the room temperature through a Bluetooth-connected thermostat. After we leave the house and activate the Wi-Fi security cameras, we order a rideshare on a phone app that recognizes our location and are driven to a factory where manufacturing robots are connected and controlled via 5G. And that is only the start of the day.... It is thus no wonder that wireless infrastructure, user devices, and networks are among the largest and most critical industries in most countries. As the demands for wireless services constantly increase, so are the requirements for new products, and for engineers that can develop these products and bring them to market. Such engineers need a deep understanding of both the fundamentals that govern the behavior of wireless systems, the current standardized systems implementations, and more recent research developments that will influence the next generation of products. The goal of this book is to help students, researchers, and practicing engineers to acquire, refresh, or update this knowledge. It is designed to lead them from the fundamental principles and building blocks, such as digital modulation, fading, and reuse of spectrum, to more advanced technologies that underly modern wireless systems, such as multicarrier and multiantenna transmission, to a description of the standardized systems dominating 5G cellular, Wi-Fi, and short-range communications, to the cutting-edge research that will form the basis for beyond-5G systems. In brief, the book leads the reader from the fundamentals to beyond 5G"--

Advances in SAR: Sensors, Methodologies, and Applications - Timo Balz 2018-10-22

This book is a printed edition of the Special Issue "Advances in SAR: Sensors, Methodologies, and Applications" that was published in Remote Sensing

UAV-Based Remote Sensing Volume 2 - Felipe Gonzalez Toro 2018-04-27

This book is a printed edition of the Special Issue "UAV-Based Remote Sensing" that was published in Sensors

Applied Reconfigurable Computing - Stephan Wong 2017-03-30

This book constitutes the refereed proceedings of the 13th International Symposium on Applied Reconfigurable Computing, ARC 2017, held in Delft, The Netherlands, in April 2017. The 17 full papers and 11 short papers presented in this volume were carefully reviewed and selected from 49 submissions. They are organized in topical sections on adaptive architectures, embedded computing and security, simulation and synthesis, design space exploration, fault tolerance, FGPA-based designs, neural neworks, and languages and estimation techniques.

Optical and Wireless Technologies - Vijay Janyani 2019-04-09

This volume presents selected papers from the 2nd International Conference on Optical and Wireless Technologies, conducted from 10th to 11th February, 2018. It focuses on extending the limits of currently used systems encompassing optical and wireless domains, and explores novel research on wireless and

optical techniques and systems, describing practical implementation activities, results and issues. The book will serve as a valuable reference resource for academics and researchers across the globe.

Domesticating Drones - Henry H Perritt, Jr 2016-09-13

The public debate over civilian use of drones is intensifying. Variously called "unmanned aircraft systems", "unmanned aerial vehicles", "remotely piloted aircraft", or simply "drones", they are available for purchase by anyone for a few hundred to a few thousand dollars. They have strikingly useful capabilities. They can carry high-definition video cameras, infrared imaging equipment, sensors for aerial surveying and mapping. They can stream their video in real time. They have GPS, inertial guidance, magnetic compasses, altimeters, and sonic ground sensors that permit them to fly a preprogrammed flightplan, take off and land autonomously, hover and orbit autonomously with the flick of a switch on the DRone Operator's ("DROPs") console. The benefits they can confer on law enforcement, journalism, land-use planning, real estate sales, critical infrastructure protection and environmental preservation activities are obvious. However, their proliferation in response to these demands will present substantial risks to aviation safety. How to ensure the safety of drone operations perplexes aviation regulators around the world. They are inexpensive consumer products, unsuited for traditional requirements for manned aircraft costing hundreds of thousands or millions of dollars and flown only by licensed pilots who have dedicated significant parts of their lives and their wealth to obtaining licenses. Regulatory agencies in Europe and Asia are ahead of US regulators in creating spaces for commercial use. Over the next several years, legal requirements must be crystallized, existing operators of helicopter and airplanes must refine their policy positions and their business plans to take the new technologies into account, and all businesses from the smallest entrepreneur to large conglomerates must decide whether and how to use them. Domesticating Drones offers rigorous engineering, economics, legal and policy theory and doctrine on this important and far-reaching development within aviation.

6GN for Future Wireless Networks - Xiaofei Wang 2021-03-01

This book constitutes the proceedings of the Third International Conference on 6G for Future Wireless Networks, 6GN 2020, held in Tianjin, China, in August 2020. The conference was held virtually due to the COVID-19 pandemic. The 45 full papers were selected from 109 submissions and present the state of the art and practical applications of 6G technologies. The papers are arranged thematically on network scheduling and optimization; wireless system and platform; intelligent applications; network performance evaluation; cyber security and privacy; technologies for private 5G/6G.

MIMO-OFDM Wireless Communications with MATLAB - Yong Soo Cho 2010-08-20

MIMO-OFDM is a key technology for next-generation cellular communications (3GPP-LTE, Mobile WiMAX, IMT-Advanced) as well as wireless LAN (IEEE 802.11a, IEEE 802.11n), wireless PAN (MB-OFDM), and broadcasting (DAB, DVB, DMB). In MIMO-OFDM Wireless Communications with MATLAB®, the authors provide a comprehensive introduction to the theory and practice of wireless channel modeling, OFDM, and MIMO, using MATLAB® programs to simulate the various techniques on MIMO-OFDM systems. One of the only books in the area dedicated to explaining simulation aspects Covers implementation to help cement the key concepts Uses materials that have been classroom-tested in numerous universities Provides the analytic solutions and practical examples with downloadable MATLAB® codes Simulation examples based on actual industry and research projects Presentation slides with key equations and figures for instructor use MIMO-OFDM Wireless Communications with MATLAB® is a key text for graduate students in wireless communications. Professionals and technicians in wireless communication fields, graduate students in signal processing, as well as senior undergraduates majoring in wireless communications will find this book a practical introduction to the MIMO-OFDM techniques. Instructor materials and MATLAB® code examples available for download at www.wiley.com/go/chomimo

Software-Defined Radio for Engineers - Alexander M. Wyglinski 2018-04-30

Based on the popular Artech House classic, Digital Communication Systems Engineering with Software-Defined Radio, this book provides a practical approach to quickly learning the software-defined radio (SDR) concepts needed for work in the field. This up-to-date volume guides readers on how to quickly prototype wireless designs using SDR for real-world testing and experimentation. This book explores advanced wireless communication techniques such as OFDM, LTE, WLA, and hardware targeting. Readers will gain

an understanding of the core concepts behind wireless hardware, such as the radio frequency front-end, analog-to-digital and digital-to-analog converters, as well as various processing technologies. Moreover, this volume includes chapters on timing estimation, matched filtering, frame synchronization message decoding, and source coding. The orthogonal frequency division multiplexing is explained and details about HDL code generation and deployment are provided. The book concludes with coverage of the WLAN toolbox with OFDM beacon reception and the LTE toolbox with downlink reception. Multiple case studies are provided throughout the book. Both MATLAB and Simulink source code are included to assist readers with their projects in the field.

Advanced Computer Architecture - Junjie Wu 2014-07-21
This book constitutes the refereed proceedings of the 10th Annual Conference on Advanced Computer Architecture, ACA 2014, held in Shenyang, China, in August 2014. The 19 revised full papers presented were carefully reviewed and selected from 115 submissions. The papers are organized in topical sections on processors and circuits; high performance computing; GPUs and accelerators; cloud and data centers; energy and reliability; intelligence computing and mobile computing.

Evolution in Signal Processing and Telecommunication Networks - P. Satish Rama Chowdary 2022-03-23
This book discusses the latest developments and outlines future trends in the fields of microelectronics, electromagnetics and telecommunication. It contains original research works presented at the International Conference on Microelectronics, Electromagnetics and Telecommunication (ICMEET 2021), held in Bhubaneswar, Odisha, India during 27–28 August, 2021. The papers were written by scientists, research scholars and practitioners from leading universities, engineering colleges and R&D institutes from all over the world and share the latest breakthroughs in and promising solutions to the most important issues facing today's society.

Signal and Information Processing, Networking and Computers - Songlin Sun 2022-11-13
This book collects selected papers from the 9th Conference on Signal and Information Processing, Networking and Computers held online, in December, 2021. The book focuses on the current works of information theory, communication system, computer science, aerospace technologies, big data and other related technologies. Readers from both academia and industry of this field can contribute and find their interests from the book.

Multiple Access Technology Towards Ubiquitous Networks - Neng Ye 2022-09-29
This book investigates the multiuser communication and its key technology—multiple access technology, as well as transceiving design methods. Multiple access methods toward B5G and 6G currently allows the superposition transmissions of multiuser signals with controllable mutual interference. By deploying advanced multiuser detector, current technology significantly enhances the connectivity, improves the spectral efficiency and simplifies the signaling interactions. Considering that the major challenge of current multiple access technology is the design of transceiver due to the overlapped and distorted signals from multiple users, we analyze the promising candidate multiple access schemes and then develop some sights on how to formulate the transmit signals and how to achieve efficient symbol recovery. Specifically, the incorporation of constellation rotation, rate splitting and deep learning techniques in enhancing the transmission efficiency of multiple access technology are considered.

Communications, Signal Processing, and Systems - Qilian Liang 2018-06-07
This book brings together papers presented at the 2017 International Conference on Communications, Signal Processing, and Systems (ICCSP 2017), which was held on July 14–17, 2017 in Harbin, China. Presenting the latest developments and discussing the interactions and links between these multidisciplinary fields, the book spans topics ranging from communications, signal processing and systems. It is aimed at undergraduate and graduate electrical engineering, computer science and mathematics students, researchers and engineers from academia and industry as well as government employees.

Countermeasures for Aerial Drones - Garik Markarian 2020-11-30
This comprehensive resource explains the development of UAVs, drone threats, counter-UAV systems, and strategies to handle UAVs, focusing on the practical aspects of counter-unmanned aerial vehicle (UAV)

systems and technologies.Theory, technical and operational practice with insights from industry and policing are covered, and the full rogue drone threat landscape and counter-drone technologies and systems is explored. The book provides insight into counter-drone strategy, developing effective counter-drone strategies and measures, as well as counter-drone programs and the regulatory frameworks governing the use of drones. It includes analysis of future drone and counter-drone challenges and highlights ongoing research and innovation activities and an examination of future drone technologies. Written by authors who have extensive academic, research, innovation, technical, industry and police operational investigative expertise at international level, this book is useful for the aviation sector, law enforcement and academia.

Integration of Unmanned Aerial Vehicles in Wireless Communication and Networks - Dushantha Nalin K Jayakody 2022-08-07
This book presents a comprehensive overview of Unmanned Arial Vehicles (UAV) and their integration of wireless communications and networks, including inherent challenges and open access concerns. The authors present the latest technologies associated with UAV-assisted wireless communications and networks by linking their association with 5G Wireless Networks. The authors include positioning of UAV, coagulation attack of UAV, and the green prospective of UAV communication systems. The book explains how the UAV can be integrated with 5G wireless schemes such as ultra-reliable, low density communications, full duplex, and non-orthogonal multiple access (NOMA) for 5G. This book targets graduate students, researchers, and industry personnel.

UAV Communications for 5G and Beyond - Yong Zeng 2020-12-08
Explore foundational and advanced issues in UAV cellular communications with this cutting-edge and timely new resource UAV Communications for 5G and Beyond delivers a comprehensive overview of the potential applications, networking architectures, research findings, enabling technologies, experimental measurement results, and industry standardizations for UAV communications in cellular systems. The book covers both existing LTE infrastructure, as well as future 5G-and-beyond systems. UAV Communications covers a range of topics that will be of interest to students and professionals alike. Issues of UAV detection and identification are discussed, as is the positioning of autonomous aerial vehicles. More fundamental subjects, like the necessary tradeoffs involved in UAV communication are examined in detail. The distinguished editors offer readers an opportunity to improve their ability to plan and design for the near-future, explosive growth in the number of UAVs, as well as the correspondingly demanding systems that come with them. Readers will learn about a wide variety of timely and practical UAV topics, like: Performance measurement for aerial vehicles over cellular networks, particularly with respect to existing LTE performance Inter-cell interference coordination with drones Massive multiple-input and multiple-output (MIMO) for Cellular UAV communications, including beamforming, null-steering, and the performance of forward-link C&C channels 3GPP standardization for cellular-supported UAVs, including UAV traffic requirements, channel modeling, and interference challenges Trajectory optimization for UAV communications Perfect for professional engineers and researchers working in the field of unmanned aerial vehicles, UAV Communications for 5G and Beyond also belongs on the bookshelves of students in masters and PhD programs studying the integration of UAVs into cellular communication systems.

Signal Processing for 5G - Fa-Long Luo 2016-10-17
A comprehensive and invaluable guide to 5G technology, implementation and practice in one single volume. For all things 5G, this book is a must-read. Signal processing techniques have played the most important role in wireless communications since the second generation of cellular systems. It is anticipated that new techniques employed in 5G wireless networks will not only improve peak service rates significantly, but also enhance capacity, coverage, reliability , low-latency, efficiency, flexibility, compatibility and convergence to meet the increasing demands imposed by applications such as big data, cloud service, machine-to-machine (M2M) and mission-critical communications. This book is a comprehensive and detailed guide to all signal processing techniques employed in 5G wireless networks. Uniquely organized into four categories, New Modulation and Coding, New Spatial Processing, New Spectrum Opportunities and New System-level Enabling Technologies, it covers everything from network architecture, physical-layer (down-link and up-link), protocols and air interface, to cell acquisition, scheduling and rate adaption, access procedures and

relaying to spectrum allocations. All technology aspects and major roadmaps of global 5G standard development and deployments are included in the book. Key Features: Offers step-by-step guidance on bringing 5G technology into practice, by applying algorithms and design methodology to real-time circuit implementation, taking into account rapidly growing applications that have multi-standards and multi-systems. Addresses spatial signal processing for 5G, in particular massive multiple-input multiple-output (massive-MIMO), FD-MIMO and 3D-MIMO along with orbital angular momentum multiplexing, 3D beamforming and diversity. Provides detailed algorithms and implementations, and compares all multicarrier modulation and multiple access schemes that offer superior data transmission performance including FBMC, GFDM, F-OFDM, UFMC, SEFDM, FTN, MUSA, SCMA and NOMA. Demonstrates the translation of signal processing theories into practical solutions for new spectrum opportunities in terms of millimeter wave, full-duplex transmission and license assisted access. Presents well-designed implementation examples, from individual function block to system level for effective and accurate learning. Covers signal processing aspects of emerging system and network architectures, including ultra-dense networks (UDN), software-defined networks (SDN), device-to-device (D2D) communications and cloud radio access network (C-RAN).

Proceedings etc 2012 - The European Society of Telemetry 2013-12-09
The European Telemetry and Test Conference etc2012 was held June 12-14 2012 in the BMW Welt Munich, Germany. Die European Telemetry and Test Conference etc2012 wurde vom 12.- 14. Juni in der BMW Welt München veranstaltet. Alle zwei Jahre treffen sich Experten rund um das Thema Telemetrie zu einer Fachkonferenz.