A Demodulation Algorithm For Time Phase Modulation Based

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The Microwave Engineering Handbook - B. Smith 2012-12-06

The Microwave Engineering Handbook provides the only complete reference available on microwave engineering. The three volumes of the handbook cover the entire field of microwave engineering, from basic components to system design. All entries in the handbook are written by experts in the area, bringing together an unrivalled collection of expertise on microwave technology. Volume 3: Microwave systems and applications provides a thorough introduction to the principal applications of microwave technology. Telecommunication, broadcasting, detection and ranging and scientific and industrial applications are covered with appendices on microwave measurement and frequency allocation. This volume shows the range of current and developing applications for microwave technology and will enable readers to appreciate the variety of applications and the requirements for the various system types.

Advanced Materials and Application - Mosbeh Kaloop 2018-05-21

International Symposium on Advanced Materials and Application (ISAMA 2018) Selected, peer reviewed papers from the 2018 International Symposium on Advanced Materials and Application (ISAMA 2018), January 19-21, 2018, Seoul, South Korea

Distributed Acoustic Sensing in Geophysics - Yingping Li 2022-01-26

A comprehensive handbook on state-of-the-art DAS technology and applications Distributed Acoustic Sensing (DAS) is a technology that records sound and vibration signals along a fiber optic cable. Its advantages of high resolution, continuous, and real-time measurements mean that DAS systems have been rapidly adopted for a range of applications, including hazard mitigation, energy industries, geohydrology, environmental monitoring, and civil engineering. Distributed Acoustic Sensing in Geophysics: Methods and Applications presents experiences from both industry and academia on using DAS in a range of geophysical applications. Volume highlights include: DAS concepts, principles, and measurements Comprehensive review of the historical development of DAS and related technologies DAS applications in hydrocarbon, geothermal, and mining industries DAS applications in seismology DAS applications in environmental and shallow geophysics The American Geophysical Union promotes discovery in Earth and space science for the benefit of humanity. Its publications disseminate scientific knowledge and provide resources for researchers, students, and professionals.

Smart Structures and Materials 2006 - Daniele Inaudi 2006

Proceedings of SPIE present the original research papers presented at SPIE conferences and other high-quality conferences in the broad-ranging fields of optics and photonics. These books provide prompt access to the latest innovations in research and technology in their respective fields. Proceedings of SPIE are among the most cited references in patent literature.

Signal Processing in Telecommunications - Ezio Biglieri 2012-12-06

It is probably an overstatement to say that the discipline of telecommunication systems is becoming an application of digital signal processing (DSP). However, there is no doubt that by the mid-I980s integrated circuit technology has advanced to such an extent that revolutionary advances in telecommunications are fostered by the introduction of new and poweiful DSP algorithms. Actually, DSP has been recently playing a major role in the development of telecommuni cations systems: to name just one of the most widespread applications where this interaction has been most effective, we may mention the use of intelligent DSP to improve the peiformance of transmission systems by allowing sophisticated algorithm to be implemented in radio transmitters and receivers for personal communications. Other areas have equally benefited by the latest advances of DSP: speech coding and synthesis, speech recognition and enhancement, radar, sonar, digital audio, and remote sensing, just to cite afew. With this in mind, when choosing the topic for the 7th Tyrrhenian Workshop on Digital Communications, whose contributions are collected in this book, we aimed at focusing on the state of the art and the perspectives of the interaction between DSP and telecommunications, two disciplines that are becoming increasingly intertwined. Although by no means exhaustive of all the applications of DSP to telecommu nications, we believe that the material presented in this book pinpoints the most interesting among them, and hence it will be considered as a useful tool for investigating this complex and highly challenging field.

Microwave Journal - 1990

Precision Dimensional Measurements - Kuang-Chao Fan 2019-10-21

This collection represents successful invited submissions from the papers presented at the 8th Annual Conference of Energy Economics and Management held in Beijing, China, 22–24 September 2017. With over 500 participants, the conference was co-hosted by the Management Science Department of National Natural Science Foundation of China, the Chinese Society of Energy Economics and Management, and Renmin University of China on the subject area of “Energy Transition of China: Opportunities and Challenges”. The major strategies to transform the energy system of China to a sustainable model include energy/economic structure adjustment, resource conservation, and technology innovation. Accordingly, the conference and its associated publications encourage research to address the major issues faced in supporting the energy transition of China. Papers published in this collection cover the broad spectrum of energy economics issues, including building energy efficiency, industrial energy demand, public policies to promote new energy technologies, power system control technology, emission reduction policies in energy-intensive industries, emission measurements of cities, energy price movement, and the impact of new energy vehicle.

Advances in Asset Management and Condition Monitoring - Andrew Ball 2020-08-27

This book gathers select contributions from the 32nd International Congress and Exhibition on Condition Monitoring and Diagnostic Engineering Management (COMADEM 2019), held at the University of Huddersfield, UK in September 2019, and jointly organized by the University of Huddersfield and COMADEM International. The aim of the Congress was to promote awareness of the rapidly emerging interdisciplinary areas of condition monitoring and diagnostic engineering management. The contents discuss the latest tools and techniques in the multidisciplinary field of performance monitoring, root cause failure modes analysis, failure diagnosis, prognosis, and proactive management of industrial systems. There is a special focus on digitally enabled asset management and covers several topics such as condition monitoring, maintenance, structural health monitoring, non-destructive testing and other allied areas. Bringing together expert contributions from academia and industry, this book will be a valuable resource for those interested in latest condition monitoring and asset management techniques.

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.

Digital Communications Using Chaos and Nonlinear Dynamics - Jia-Ming Liu 2006-11-22

This book provides a summary of the research conducted at UCLA, Stanford University, and UCSD over the last ?ve years in the area of nonlinear dyn- ics and chaos as applied to digital communications. At ?rst blush, the term “chaotic communications” seems like an oxymoron; how could something as precise and deterministic as digital communications be chaotic? But as this book will demonstrate, the application of chaos and nonlinear dynamicstocommunicationsprovidesmanypromisingnewdirectionsinareas of coding, nonlinear optical communications, and ultra-wideband commu- cations. The eleven chapters of the book summarize many of the promising new approaches that have been developed, and point the way to new research directions in this ?eld. Digital communications techniques have been continuously developed and re?ned for the past ?fty years to the point where today they form the heart of a multi-hundred billion dollar per year industry employing hundreds of thousands of people on a worldwide basis. There is a continuing need for transmission and reception of digital signals at higher and higher data rates. There are a variety of physical limits that place an upper limit on these data rates, and so the question naturally arises: are there alternative communi- tion techniques that can overcome some of these limitations? Most digital communications today is carried out using electronic devices that are essentially “linear,” and linear system theory has been used to c-tinually re?ne their performance. In many cases, inherently nonlinear devices are linearized in order to achieve a certain level of linear system performance.

Cybernetics Perspectives in Systems - Radek Silhavy 2022-08-05

This book contains the refereed proceedings of the Cybernetics Perspectives in Systems session of the 11th Computer Science On-line Conference 2022 (CSOC 2022), which was held in April 2022 online. Papers on modern cybernetics and informatics in the context of networks and systems are an important component of current research issues. This volume contains an overview of recent method, algorithms and designs.

Proceedings of the Fifth International Mobile Satellite Conference 1997, IMSC '97 - Louise Anderson 1997

Alta frequenza - 1986

Twelfth International Conference on Adaptive Structures and Technologies - Norman Wereley 2017-11-22

First Published in 2017. Routledge is an imprint of Taylor & Francis, an Informa company.

Applications in Electronics Pervading Industry, Environment and Society - Sergio Saponara 2020-03-20

This book provides a thorough overview of cutting-edge research on electronics applications relevant to industry, the environment, and society at large. It covers a broad spectrum of application domains, from automotive to space and from health to security, while devoting special attention to the use of embedded devices and sensors for imaging, communication and control. The book is based on the 2019 ApplePies Conference, held in Pisa,

Italy in September 2019, which brought together researchers and stakeholders to consider the most significant current trends in the field of applied electronics and to debate visions for the future. Areas addressed by the conference included information communication technology; biotechnology and biomedical imaging; space; secure, clean and efficient energy; the environment; and smart, green and integrated transport. As electronics technology continues to develop apace, constantly meeting previously unthinkable targets, further attention needs to be directed toward the electronics applications and the development of systems that facilitate human activities. This book, written by industrial and academic professionals, represents a valuable contribution in this endeavor.

Optical Sensing in Power Transformers - Jun Jiang 2020-12-14

A cutting-edge, advanced level, exploration of optical sensing application in power transformers Optical Sensing in Power Transformers is filled with the critical information and knowledge on the optical techniques applied in power transformers, which are important and expensive components in the electric power system. Effective monitoring of systems has proven to decrease the transformer lifecycle cost and increase a high level of availability and reliability. It is commonly held that optical sensing techniques will play an increasingly significant role in online monitoring of power transformers. In this comprehensive text, the authors—noted experts on the topic—present a scholarly review of the various cutting-edge optical principles and methodologies adopted for online monitoring of power transformers. Grounded in the authors' extensive research, the book examines optical techniques and high-voltage equipment testing and provides the foundation for further application, prototype, and manufacturing. The book explores the principles, installation, operation, condition detection, monitoring, and fault diagnosis of power transformers. This important text: Provides a current exploration of optical sensing application in power transformers Examines the critical balance and pros and cons of cost and quality of various optical condition monitoring techniques Presents a wide selection of techniques with appropriate technical background Extends the vision of condition monitoring testing and analysis Treats condition monitoring testing and analysis tools together in a coherent framework Written for researchers, technical research and development personnel, manufacturers, and frontline engineers, Optical Sensing in Power Transformers offers an up-to-date review of the most recent developments of optical sensing application in power transformers.

Novel Insights into Orbital Angular Momentum Beams: From Fundamentals, Devices to Applications - Yang Yue 2019-09-03

It is well-known by now that the angular momentum carried by elementary particles can be categorized as spin angular momentum (SAM) and orbital angular momentum (OAM). In the early 1900s, Poynting recognized that a particle, such as a photon, can carry SAM, which has only two possible states, i.e., clockwise and anticlockwise circular polarization states. However, only fairly recently, in 1992, Allen et al. discovered that photons with helical phase fronts can carry OAM, which has infinite orthogonal states. In the past two decades, the OAM-carrying beam, due to its unique features, has gained increasing interest from many different research communities, including physics, chemistry, and engineering. Its twisted phase front and intensity distribution have enabled a variety of applications, such as micromanipulation, laser beam machining, nonlinear matter interactions, imaging, sensing, quantum cryptography and classical communications. This book aims to explore novel insights of OAM beams. It focuses on state-of-the-art advances in fundamental theories, devices and applications, as well as future perspectives of OAM beams.

Foundations and Frontiers in Computer, Communication and Electrical Engineering - Aritra Acharyya 2016-05-05

The 3rd International Conference on Foundations and Frontiers in Computer, Communication and Electrical Engineering is a notable event which brings together academia, researchers, engineers and students in the fields of Electronics and Communication, Computer and Electrical Engineering making the conference a perfect platform to share experience, f

Compressive Sensing Based Algorithms for Electronic Defence - Amit Kumar Mishra 2016-12-22

This book details some of the major developments in the implementation of compressive sensing in radio applications for electronic defense and warfare communication use. It provides a comprehensive background to the subject and at the same time describes some novel algorithms. It also investigates application value and performance-related parameters of compressive sensing in scenarios such as direction finding, spectrum monitoring, detection, and classification.

Three-Dimensional Television - H.M. Ozaktas 2007-11-13

This book is the condensed result of an extensive European project developing the future of 3D-Television. The book describes the state of the art in relevant topics: Capture of 3D scene for input to 3DTV system; Abstract representation of captured 3D scene information in digital form; Specifying data exchange format; Transmission of coded data; Conversion of 3DTV data for holographic and other displays; Equipment to decode and display 3DTV signal.

Modern Metrology Concerns - Luigi Cocco 2012-05-16

"What are the recent developments in the field of Metrology?" International leading experts answer this question providing both state of the art presentation and a road map to the future of measurement science. The book is organized in six sections according to the areas of expertise, namely: Introduction; Length, Distance and Surface; Voltage, Current and Frequency; Optics; Time and Relativity; Biology and Medicine. Theoretical basis and applications are explained in accurate and comprehensive manner, providing a valuable reference to researchers and professionals.

Advanced Signal-processing Algorithms, Architectures, and Implementations - 1996

Measurement, Instrumentation, and Sensors Handbook - John G. Webster 2017-12-19

The Second Edition of the bestselling Measurement, Instrumentation, and Sensors Handbook brings together all aspects of the design and implementation of measurement, instrumentation, and sensors. Reflecting the current state of the art, it describes the use of instruments and techniques for performing practical measurements in engineering, physics, chemistry, and the life sciences and discusses processing systems, automatic data acquisition, reduction and analysis, operation characteristics, accuracy, errors, calibrations, and the incorporation of standards for control purposes. Organized according to measurement problem, the Electromagnetic, Optical, Radiation, Chemical, and Biomedical Measurement volume of the Second Edition: Contains contributions from field experts, new chapters, and updates to all 98 existing chapters Covers sensors and sensor technology, time and frequency, signal processing, displays and recorders, and optical, medical, biomedical, health, environmental, electrical, electromagnetic, and chemical variables A concise and useful reference for engineers, scientists, academic faculty, students, designers, managers, and industry professionals involved in instrumentation and measurement research and development, Measurement, Instrumentation, and Sensors Handbook, Second Edition: Electromagnetic, Optical, Radiation, Chemical, and Biomedical Measurement provides readers with a greater understanding of advanced 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.

Intelligent System and Computing - Yang Yi 2020-04-29

The book “Intelligent System and Computing” reports the theory, mathematical models, algorithms, design methods, and applications of intelligent systems and computing. It covers various disciplines including computer and information science, electrical and computer engineering, natural sciences, economics, and neuroscience. The broad-ranging discussion covers the key disciplines in computational science and artificial intelligence as well as advances in neuromorphic computing, deep learning, the Internet of Things, computer vision, and many others. This volume provides both academics and professionals with a comprehensive overview of the field and presents areas for future research.

Technology 2001 - 1991

The Electrical Engineering Handbook - Wai Kai Chen 2004-11-16

The Electrical Engineer's Handbook is an invaluable reference source for all practicing electrical engineers and students. Encompassing 79 chapters, this book is intended to enlighten and refresh knowledge of the practicing engineer or to help educate engineering students. This text will most likely be the engineer’s first choice in looking for a solution; extensive, complete references to other sources are provided throughout. No other book has the breadth and depth of coverage available here. This is a must-have for all practitioners and students! The Electrical Engineer's Handbook provides the most up-to-date information in: Circuits and Networks, Electric Power Systems, Electronics, Computer-Aided Design and Optimization, VLSI Systems, Signal Processing, Digital Systems and Computer Engineering, Digital Communication and Communication Networks, Electromagnetics and Control and Systems. About the Editor-in-Chief... Wai-Kai Chen is Professor and Head Emeritus of the Department of Electrical Engineering and Computer Science at the University of Illinois at Chicago. He has extensive experience in education and industry and is very active professionally in the fields of circuits and systems. He was Editor-in-Chief of the IEEE Transactions on Circuits and Systems, Series I and II, President of the IEEE Circuits and Systems Society and is the Founding Editor and Editor-in-Chief of the Journal of Circuits, Systems and Computers. He is the recipient of the Golden Jubilee Medal, the Education Award, and the Meritorious Service Award from the IEEE Circuits and Systems Society, and the Third Millennium Medal from the IEEE. Professor Chen is a fellow of the IEEE and the American Association for the Advancement of Science. * 77 chapters encompass the entire field of electrical engineering. * THOUSANDS of valuable figures, tables, formulas, and definitions. * Extensive bibliographic references.

Detection Algorithms for Wireless Communications - Gianluigi Ferrari 2005-12-13

Wireless channels are becoming more and more important, with the future development of wireless ad-hoc networks and the integration of mobile and satellite communications. To this end, algorithmic detection aspects (involved in the physical layer) will become fundamental in the design of a communication system. This book proposes a unified approach to detection for stochastic channels, with particular attention to wireless channels. The core idea is to show that

the three main criteria of sequence detection, symbol detection and graph-based detection, can all be described within a general framework. This implies that a detection algorithm based on one criterion can be extended to the other criteria in a systematic manner. Presents a detailed analysis of statistical signal detection for digital signals transmitted over wireless communications Provides a unifying framework for different signal detection algorithms, such as sequence detection, symbol detection and graph-based detection, important for the design of modern digital receivers operating over mobile channels Features the hot topic of graph-based detection Detection Algorithms for Wireless Communications represents a novel contribution with respect to the current literature, with a unique focus on detection algorithms, as such it will prove invaluable to researchers working in academia and industry and in the field of wireless communications, as well as postgraduate students attending advanced courses on mobile communications.

Optical Fiber Sensing Technologies - Tiegen Liu 2022-03-14

Optical Fiber Sensing Technologies/ b Explore foundational and advanced topics in optical fiber sensing technologies In Optical Fiber Sensing Technologies: Principles, Techniques, and Applications, a team of distinguished researchers delivers a comprehensive overview of all critical aspects of optical fiber sensing devices, systems, and technologies. The book moves from the basic principles of the technology to innovation methods and a broad range of applications, including Bragg grating sensing technology, intra-cavity laser gas sensing technology, optical coherence tomography, distributed vibration sensing, and acoustic sensing. The accomplished authors bridge the gap between innovative new research in the field and practical engineering solutions, offering readers an unmatched source of practical, application-ready knowledge. Ideal for anyone seeking to further the boundaries of the science of optical fiber sensing or the technological applications for which these techniques are used, Optical Fiber Sensing Technologies: Principles, Techniques, and Applications also includes: Thorough introductions to optical fiber and optical devices, as well as optical fiber Bragg grating sensing technology Practical discussions of Extrinsic-Fabry-Perot-Interferometer-based optical fiber sensing technology, acoustic sensing technology, and high-temperature sensing technology Comprehensive explorations of assemble free micro-interferometer-based optical fiber sensing technology In-depth examinations of optical fiber intra-cavity laser gas sensing technology Perfect for applied and semiconductor physicists, Optical Fiber Sensing Technologies: Principles, Techniques, and Applications is also an invaluable resource for professionals working in the semiconductor, optical, and sensor industries, as well as materials scientists and engineers for measurement and control.

Communication System Design Using DSP Algorithms - Steven A. Tretter 2013-06-29

Designed for senior electrical engineering students, this textbook explores the theoretical concepts of digital signal processing and communication systems by presenting laboratory experiments using real-time DSP hardware. Each experiment begins with a presentation of the required theory and concludes with instructions for performing them. Engineering students gain experience in working with equipment commonly used in industry. This text features DSP-based algorithms for transmitter and receiver functions.

Internet of Things, Smart Spaces, and Next Generation Networks and Systems - Sergey Balandin 2015-08-12

This book constitutes the joint refereed proceedings of the 15th International Conference on Next Generation Wired/Wireless Advanced Networks and Systems, NEW2AN 2015, and the 8th Conference on Internet of Things and Smart Spaces, ruSMART 2015, held in St. Petersburg, Russia, in August 2015. The 74 revised full papers were carefully reviewed and selected from numerous submissions. The 15 papers selected for ruSMART are organized in topical sections on IoT infrastructure, IoT platforms, smart spaces and IoT cases, and smart services and solutions. The 59 papers from NEW2AN deal with the following topics: streaming, video, and TCP applications, mobile "ad hoc" networks, security, and clouds, sensor networks and IoT, cellular systems, novel systems and techniques, business and services,

signals and circuits, optical and satellite systems, and advanced materials and their properties.

International Youth Conference on Electronics, Telecommunications and Information Technologies - Elena Velichko 2022-01-12

This book presents peer-reviewed and selected papers of the International Youth Conference on Electronics, Telecommunications, and Information Technologies (YETI-2021), held in Peter the Great St. Petersburg Polytechnic University, St. Petersburg, on April 22–23, 2021. For the third time around, the conference brings together students and early career scientists, serving to disseminate the current trends and advances in electronics, telecommunications, optical, and information technologies. A series of workshops and poster sessions focusing, in particular, on the theoretical and practical challenges in nanotechnologies, photonics, signal processing, and telecommunications allow to establish contacts between potential partners, share new ideas, and start new collaborations. The conference is held in an online format, thus considerably expanding its geographical reach and offering an even wider scope of discussion.

Optical Fiber Sensors - Ginu Rajan 2017-12-19

Optical Fiber Sensors: Advanced Techniques and Applications describes the physical principles of, and latest developments in, optical fiber sensors. Providing a fundamental understanding of the design, operation, and practical applications of fiber optic sensing systems, this book: Discusses new and emerging areas of research including photonic crystal fiber sensors, micro- and nanofiber sensing, liquid crystal photonics, acousto-optic effects in fiber, and fiber laser-based sensing Covers well-established areas such as surface plasmon resonance sensors, interferometric fiber sensors, polymer fiber sensors, Bragg gratings in polymer and silica fibers, and distributed fiber sensors Explores humidity sensing applications, smart structure applications, and medical applications, supplying detailed examples of the various fiber optic sensing technologies in use Optical Fiber Sensors: Advanced Techniques and Applications draws upon the extensive academic and industrial experience of its contributing authors to deliver a comprehensive introduction to optical fiber sensors with a strong practical focus suitable for undergraduate and graduate students as well as scientists and engineers working in the field.

Mechatronics and Automatic Control Systems - Wego Wang 2013-11-18

This book examines mechatronics and automatic control systems. The book covers important emerging topics in signal processing, control theory, sensors, mechanic manufacturing systems and automation. The book presents papers from the 2013 International Conference on Mechatronics and Automatic Control Systems in Hangzhou, held in China during August 10-11, 2013.

Simulating Wireless Communication Systems - C. Britton Rorabaugh 2004-06-17

Simulating Wireless Communication Systems: Practical Models in C++ C. Britton Rorabaugh The practical, inclusive reference for engineers simulating wireless systems In order to keep prices within reach of the average consumer, cellular phone and wireless data transceiver manufacturers resort to mass producing millions of units from a single design. Considering the design complexity and fabrication expense involved, typical prototyping is not practical–designs must first be tested and honed using simulation. Author C. Britton Rorabaugh brings to the table more than 20 years of experience simulating large, state-of-the-art communications systems. In Simulating Wireless Communication Systems, Rorabaugh explores, using C++, practical and authoritative techniques for simulating even the most complex wireless communication systems. Along the way he shows you how to create custom simulations that fit your project's intended design, so that you and your engineering team aren't forced to resort to inadequate commercial simulation packages. This book includes nearly two hundred models of practical devices for implementing wireless communication systems and major subsystems. Mathematical and statistical appendices are also included to provide useful information for those seeking to understand, set up, and use any of Rorabaugh's detailed device models. Contents include: A background and overview of simulation Discussion of a variety of model types, including Random Process, Filter, and Channel models

Practical modulation and demodulation Synchronization, signal shifting, and recovery Detailed instructions for working with Galois fields A comprehensive companion Web site featuring dozens of ready-to-run software modules If you're an engineer or wireless communication project manager, then Simulating Wireless Communication Systems: Practical Models in C++ will prove to be both a convenient reference and an ideal instructional manual for the creation of specialized wireless communication simulations that will enable you to bring your product to market in a cost-effective and efficient manner. C. BRITTON RORABAUGH has a BS and MS in Electrical Engineering from Drexel University and currently holds the position of Chief Scientist for a company that develops and manufactures specialized military communications equipment. He is the author of several publications on topics such as DSP, Digital Filters, and Error Coding and has experience in object-oriented design, realtime software, numerical methods, computer graphics, C++, C, SPW, MATLAB®, Visio®, TEX/LATEX, Microsoft® Office, and assembly languages for various microprocessors and DSP devices. ISBN: 0-13-022268-2 PRENTICE HALL Professional Technical Reference Upper Saddle River, NJ 07458 www.phptr.com

An Introduction to Distributed Optical Fibre Sensors - Arthur H. Hartog 2017-05-25

This book explains physical principles, unique benefits, broad categories, implementation aspects, and performance criteria of distributed optical fiber sensors (DOFS). For each kind of sensor, the book highlights industrial applications, which range from oil and gas production to power line monitoring, plant and process engineering, environmental monitoring, industrial fire and leakage detection, and so on. The text also includes a discussion of such key areas as backscattering, launched power limitations, and receiver sensitivity, as well as a concise historical account of the field’s development.

NASA Tech Briefs - 1993-12

Underwater Communications and Networks - Yi Lou 2021-11-15

This textbook covers all related communication technologies of underwater wireless communication, such as acoustic communication, optical communication, and magneto-inductive communication. After describing each technology, the authors relay their pros and cons, as it is essential to learn the underlying mechanism, advancements, and limitations of these techniques. Therefore, this book provides basics fundamentals of the three technologies, their advantages and disadvantages, and their applications. The authors also introduce research trends, pointing readers in the direction of research in the field of underwater wireless communication. The book is an essential textbook for undergraduate and graduate students in the field of underwater communications. The book is also useful as a reference to undergraduate engineering students, science students, and practicing engineers. The book includes end-of-chapter questions and numerical problems.

Modem Theory - Richard E. Blahut 2010

This detailed introduction presents the theory of digital modulation and coding underpinning the modern design of modems for telecommunications. From baseband and passband modulation and demodulation to sequence estimation, turbo codes, and the Viterbi algorithm, a wide range of key topics is covered, whilst end-of-chapter exercises test students' understanding throughout.

Conference Record - 1996