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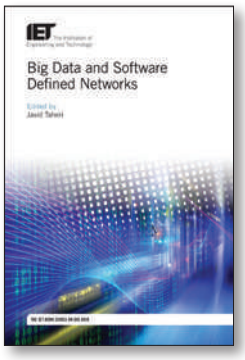
See page 55 for further purchase information.

Big Data and Software Defined Networks



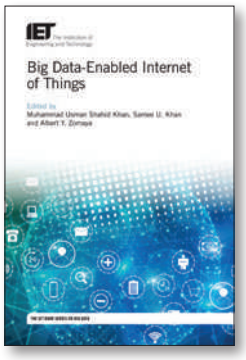
Editor: Javid Taheri, Karlstad University, Sweden

This book provides crucial information on state-of-the-art advancements and architectures of Big Data and Software Defined Networking (SDN), and highlights general open issues in these innovating and growing fields. It explains how SDN can help Big Data applications run more efficiently and shows how Big Data analytics can be used to make better resource allocation decisions, and run smoother networks in Cloud data centres. A timely resource for researchers, developers and practitioners developing and implementing cloud-based solutions.

The IET Book Series on Big Data

2018 / 504pp / £110 / $175
Print PBPC0150 / 978-1-78561-304-3
eBook PBPC015E / 978-1-78561-305-0

Big Data-Enabled Internet of Things



Editors: Muhammad Usman Shahid Khan et al., COMSATS Institute of Information Technology, Pakistan

Written by a team of leading international researchers, this volume presents the state-of-the-art research taking place at the interface of Big Data and the Internet of Things (IoT). With a focus on the analytical techniques needed to handle the huge data-processing requirements, the book discusses Big Data analytics, selflearning algorithms, recommendation systems, indexing techniques, semantic analysis and much more. This volume is an invaluable resource for a wide audience of computing researchers, practitioners, engineers and information technology professionals working in this highly dynamic field.

The IET Book Series on Big Data

2019 / 600pp / £140 / $180
Print PBPC0250 / 978-1-78561-636-5
eBook PBPC025E / 978-1-78561-637-2

Big Data Recommender Systems

Volume 1: Algorithms, Architectures, Big Data, Security and Trust

Volume 2: Application Paradigms

Editors: Osman Khalid, COMSATS Institute of Information Technology, Pakistan; Samee U. Khan, North Dakota State University, USA; Albert Y. Zomaya, University of Sydney, Australia

Recommender systems apply knowledge discovery techniques on users' data to suggest information, products, and services that best match their preferences. Divided into two volumes, this comprehensive set covers recent advances, challenges, novel solutions, and applications in big data recommender systems. Volume 1 contains 14 chapters addressing foundations, algorithms and architectures, approaches for big data, and trust and security measures. Volume 2 covers a broad range of application paradigms for recommender systems over 22 chapters.

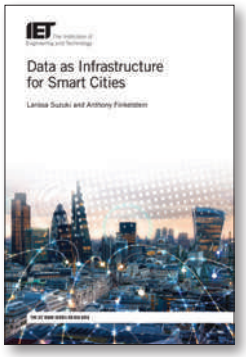
The IET Book Series on Big Data

Vol 1: 2019 / 352pp / £120 / $155
Print PBPC035A 978-1-78561-975-5
eBook PBPC035F 978-1-78561-976-2

Vol 2: 2019 / 536pp / £130 / $ 170
Print PBPC035B 978-1-78561-977-9
eBook PBPC035G 978-1-78561-978-6

Set: 2019 / £200 / $260
Print PBPC035X / 978-1-78561-979-3

Data as Infrastructure for Smart Cities



Authors: Larissa Romualdo Suzuki & Anthony C.W. Finkelstein, University College London, UK

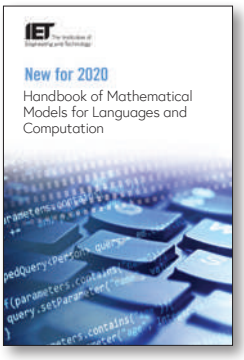
The authors present a comprehensive framework of techniques for smart city data infrastructure design. Providing tools to enable processes with innovative use of technology and data, coupled with governance strategies, the book shows how to improve the quality of cross-domain city service management, and the decision making process. The framework has guided the design of several urban platforms in the European Union and the design of the City Data Strategy of the Mayor of London, UK.

2018 / 312pp / £115 / $150
Print PBPC0230 / 978-1-78561-599-3
eBook PBPC023E / 978-1-78561-600-6

Computing - Highlights

NEW

Handbook of Mathematical Models for Languages and Computation

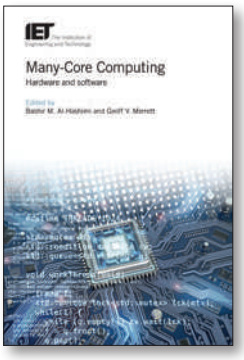


Authors: Alexander Meduna, Brno University of Technology, Czech Republic; Petr Horáček, BioVendor - Laboratorní medicína a.s., Czech Republic; Martin Tomko, Brno University of Technology, Czech Republic

This handbook introduces a variety of concepts in discrete mathematics and mathematical modeling for languages and computation. The authors pay special attention to the implementation of mathematical concepts to explain clearly how to encode them in computational practice. All computer programs are written in C#. At the end of each chapter, a set of exercises is given to reinforce and augment the material covered.

2020 / 400pp / £125 / $160
Print **PBPC0260 / 978-1-78561-659-4**
eBook **PBPC026E / 978-1-78561-660-0**

Many-Core Computing: Hardware and software

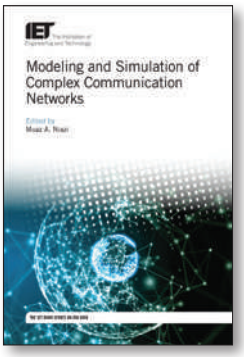


Editors: Bashir M. Al-Hashimi & Geoff Merrett, University of Southampton, UK

Covering the thriving field of many-core computing, this book starts by discussing languages, operating systems and compilers, then examines algorithms and methods, before expanding on many aspects of architecture. It features a large section on applications covering autonomous systems, cloud computing, high performance computing and Big Data, as well as future research directions. Each chapter presents background information covering basic principles, and an extensive, up-to-date list of references. Ideal for researchers in electrical and electronic engineering and computer science, as well as graduate students and lecturers in the field.

2019 / 650pp / £135 / $175
Print **PBPC0220 / 978-1-78561-582-5**
eBook **PBPC022E / 978-1-78561-583-2**

Modeling and Simulation of Complex Communication Networks



Editor: Muaz A. Niazi, COMSATS Institute of Information Technology, Pakistan

The inherent complexity of modern interconnected communication and information network systems creates a need for researchers and engineers to create and develop realistic models to analyze and predict outcomes and scenarios. Covering modeling paradigms and approaches as well as surveys and case studies, this edited book covers important topics and approaches for the Internet of Things (IoT) and Big Data networks from a complex adaptive systems perspective.

The IET Book Series on Big Data

2018 / 440pp / £125 / $160
Print **PBPC0180 / 978-1-78561-355-5**
eBook **PBPC018E / 978-1-78561-356-2**

Security and Privacy for Big Data, Cloud Computing and Applications

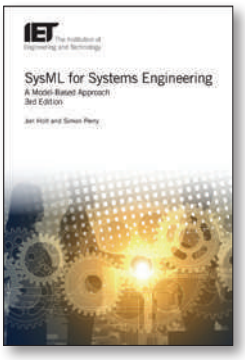
Editors: Lizhe Wang et al., Chinese Academy of Science, Institute of Remote Sensing and Digital Earth, China

This is a comprehensive view on how to advance security in big data, cloud computing and financial technologies. It gives unprecedented insights into recent advances, and explains how to make the technology more secure and fit for purpose. Topics covered include data security and network security; big data security; cloud computing with more secure frameworks; and blockchain technology and security for digital currency. Ideal for researchers and practitioners working in information security and data science, as well as IT professionals in the financial industry.

The IET Book Series on Big Data

2019 / 350pp / £120 / $155
Print **PBPC0280 / 978-1-78561-747-8**
eBook **PBPC028E / 978-1-78561-748-5**

SysML for Systems Engineering: A model-based approach



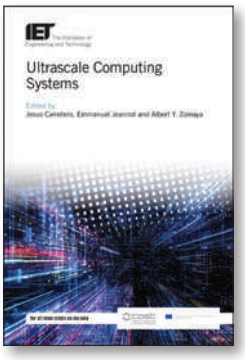
3rd Edition

Authors: Jon Holt & Simon Perry, Scarecrow Consultants, UK

Now with several new chapters, this third edition of the popular guide to SysML for systems engineering has been fully aligned with the latest version of the standard SysML 1.4. It includes updates on the core modelling notation, standards models, benefits of MBSE, model management, model maturity and value chain modelling. The book also describes how to implement SysML and MBSE in an organisation, and how to model real projects effectively. An extensive case study makes the book invaluable for practising systems engineers.

2018 / 880pp / £145 / $190
Print PBPC0200 / 978-1-78561-554-2
eBook PBPC020E / 978-1-78561-555-9

Ultrascale Computing Systems



Editors: Jesus Carretero et al., University Carlos III of Madrid, Spain

This title presents important results and methods geared towards achieving sustainable ultrascale computing systems. The book covers state-of-the-art technologies and methodologies to address the huge computer processing requirements of big data and the Internet of Things. Incorporating important results from the COST Action IC 1305 Network for Sustainable Ultrascale Computing (NESUS), this book presents a wide range of emerging programming models that facilitate the task of scaling and extracting performance on continuously evolving platforms, while providing resilience and fault-tolerant mechanisms.

The IET Book Series on Big Data

2019 / 320pp / £115 / $150
Print PBPC0240 / 978-1-78561-833-8
eBook PBPC024E / 978-1-78561-834-5

Computing - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
AI for Emerging Verticals: Human-robot computing, sensing and networking	Shakir & Ramzan (Eds)	£125.00	$160.00	978-1-78561-982-3	978-1-78561-983-0	PBPC034
Blockchains for Network Security: Principles, technologies, and applications	Huang, Wang, Wu & Choo (Eds)	£120.00	$155.00	978-1-78561-873-4	978-1-78561-874-1	PBPC029
Edge Computing: Models, technologies and applications.	Taheri & Deng (Eds)	£130.00	$170.00	978-1-78561-940-3	978-1-78561-941-0	PBPC033
E-learning Methodologies: Fundamentals, technologies and applications	Goyal, Krishnamurthi & Yadav (Eds)	£125.00	$165.00	978-1-83953-120-0	978-1-83953-121-7	PBPC040
Handbook of Big Data Analytics: Volume 1: Methodologies	Ravi & Cherukuri (Eds)	£125.00	$160.00	978-1-83953-064-7	978-1-83953-058-6	PBPC037A
Handbook of Big Data Analytics: Volume 2: Applications in ICT, security and business analytics	Ravi & Cherukuri (Eds)	£140.00	$180.00	978-1-83953-059-3	978-1-83953-060-9	PBPC037B
Handbook of Big Data Analytics (2-volume set)	Ravi & Cherukuri (Eds)	£210.00	$270.00	978-1-83953-061-6	N/A	PBPC037X
Managing Internet of Things Applications across Edge and Cloud Data Centres	Ranjan, Mitra, Jayaraman & Zomaya (Eds)	£145.00	$190.00	978-1-78561-779-9	978-1-78561-780-5	PBPC027
Network Classification for Traffic Management: Anomaly detection, feature selection, clustering and classification	Tari, Fahad, Almalawi & Yi	£120.00	$155.00	978-1-78561-921-2	978-1-78561-922-9	PBPC032
Pattern Recognition and Machine and Deep Learning for Augmented and Virtual Reality Applications	Sagayam, Henesey, de Albuquerque & Edinbarough (Eds)	£125.00	$165.00	978-1-83953-069-2	978-1-83953-070-8	PBPC038
Quantum-inspired Metaheuristics for Data Optimization and Analytics: Theory, approaches, advances, and applications	Bhattacharyya, Hassanien & Snasel (Eds)	£125.00	$165.00	978-1-83953-062-3	978-1-83953-063-0	PBPC036
RRAM-based Machine Learning	Yu, Ni & Dinakarrao	£115.00	$150.00	978-1-83953-081-4	978-1-83953-082-1	PBPC039
Trustworthy Autonomic Computing	Eze	£115.00	$150.00	978-1-78561-883-3	978-1-78561-884-0	PBPC030
Visual Technologies for Virtual Reality	Lafruit & Tehrani	£125.00	$160.00	978-1-78561-578-8	978-1-78561-579-5	PBPC021

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Computing - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Big Data and Software Defined Networks	Taheri (Ed)	£110.00	$175.00	978-1-78561-304-3	978-1-78561-305-0	PBPC015
Big Data Recommender Systems: Volume 1: Algorithms, architectures, big data, security and trust	Khalid, Khan & Zomaya (Eds)	£120.00	$155.00	978-1-78561-975-5	978-1-78561-976-2	PBPC035A
Big Data Recommender Systems: Volume 2: Application paradigms	Khalid, Khan & Zomaya (Eds)	£130.00	$170.00	978-1-78561-977-9	978-1-78561-978-6	PBPC035B
Big Data Recommender Systems (2-volume set)	Khalid, Khan & Zomaya (Eds)	£200.00	$260.00	978-1-78561-979-3	N/A	PBPC035X
Big Data-Enabled Internet of Things	Khan, Khan & Zomaya	£140.00	$180.00	978-1-78561-636-5	978-1-78561-637-2	PBPC025
Data as Infrastructure for Smart Cities	Suzuki & Finkelstein	£115.00	$150.00	978-1-78561-599-3	978-1-78561-600-6	PBPC023
Foundations for Model-based Systems Engineering: From patterns to models	Holt, Perry & Brownsword	£85.00	$135.00	978-1-78561-050-9	978-1-78561-051-6	PBPC014
Handbook of Mathematical Models for Languages and Computation	Meduna, Horáček & Tomko	£125.00	$160.00	978-1-78561-659-4	978-1-78561-660-0	PBPC026
Many-Core Computing: Hardware and software	Al-Hashimi & Merrett (Eds)	£135.00	$175.00	978-1-78561-582-5	978-1-78561-583-2	PBPC022
Modeling and Simulation of Complex Communication Networks	Niazi (Ed)	£125.00	$160.00	978-1-78561-355-5	978-1-78561-356-2	PBPC018
Security and Privacy for Big Data, Cloud Computing and Applications	Wang, Ren, Choo & Xhafa (Eds)	£120.00	$155.00	978-1-78561-747-8	978-1-78561-748-5	PBPC028
SysML for Systems Engineering: A model-based approach, 3rd Edition	Holt & Perry	£145.00	$190.00	978-1-78561-554-2	978-1-78561-555-9	PBPC020
Trusted Platform Modules: Why, when and how to use them	Segall	£75.00	$120.00	978-1-84919-893-6	978-1-84919-894-3	PBPC013
Ultrascale Computing Systems	Carretero, Jeannot & Zomaya (Eds)	£115.00	$150.00	978-1-78561-833-8	978-1-78561-834-5	PBPC024

NEW

Advances in Communications Satellite Systems: Proceedings of The 36th International Communications Satellite Systems Conference (ICSSC-2018)

Editors: Ifiok Otung, University of South Wales, UK; Thomas Butash, Innovative Aerospace IS, USA; Peter Garland, MDA Satellite Systems, Canada

The International Communications Satellite Systems Conference (ICSSC) is one of the most influential technical conferences in the field. These proceedings of the 36th conference present a broad spectrum of space communications contributions, from the evolution of GEO from traditional area coverage to Ultra High Throughput Satellites (UHTS), the growing number of mega constellations expected to enter service in the next decade, navigation applications, wideband data backhaul from scientific and remote sensing payloads in LEO, and the extension of the 5G and beyond network to near earth, lunar and deep space environments.

2019 / 550pp / £135 / $175
Print **PBTE0860 / 978-1-78561-961-8**
eBook **PBTE086E / 978-1-78561-962-5**

Applications of Machine Learning in Wireless Communications

Editors: Ruisi He & Zhiguo Ding, Beijing Jiaotong University, China & The University of Manchester, UK

This detailed and comprehensive reference considers how to combine the disciplines of wireless communications and machine learning. To achieve this, the authors present current and future developments and trends as well as effective applications of machine learning and AI in wireless communications where data mining and data analysis technologies can be used effectively to solve wireless system evaluation and design challenges. Coverage includes channel modelling, signal estimation and detection, energy efficiency, cognitive radios, wireless sensor networks, vehicular communications and wireless multimedia communications.

2019 / 472pp / £125 / $165
Print **PBTE0810 / 978-1-78561-657-0**
eBook **PBTE081E / 978-1-78561-658-7**

NEW

Low Electromagnetic Emission Wireless Network Technologies

Editors: Muhammad Ali Imran et al., University of Glasgow, UK

This book focuses on the recent work on EM emissions for future generations of mobile and wireless communications. It provides a comprehensive source of knowledge for a wide audience including academics, researchers, telecom engineers, industrial actors, and policy makers such as 5G stakeholders, regulators and research agencies. With the 5G network still in its developmental stage, this is a timely publication highlighting the novel work done to reduce EM emissions in future mobile and wireless communication systems and to develop smart integrated technical solutions.

2020 / 350pp / £120 / $155
Print **PBTE0840 / 978-1-78561-848-2**
eBook **PBTE084E / 978-1-78561-849-9**

NEW

Microstrip and Printed Antenna Design

3rd Edition

Author: Randy Bancroft, Randwulf Technologies, USA

Modern products require more and more wireless features, which require more antennas. This in turn requires better design. In this new edition of the popular guide to the area, the author addresses the issue from the perspective of a consulting engineer who works in the field and implements the elegant microstrip antenna designs from the book. The author emphasizes useful and practicable antenna design, covers omnidirectional microstrip antennas and demystifies PIFA design. Ideal for antenna designers working in wireless or space antennas.

2020 / 400pp / £125 / $160
Print **PBTE0830 / 978-1-78561-854-3**
eBook **PBTE083E / 978-1-78561-855-0**

Telecommunications - Highlights

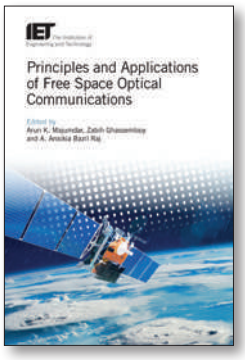
Network Design, Modelling and Performance Evaluation

Author: Quoc-Tuan Vien, Middlesex University, UK

Designed for ICT professionals involved in the planning, design, development, testing and operation of computer network services, this book will help readers evaluate a network situation and identify the most important aspects that need to be monitored and analysed. The author provides a detailed step by step design approach from the analysis of the initial network requirements to architecture design, modelling, simulation and evaluation, with a special focus on statistical and queuing models. Practice exercises are given for selected chapters, and case studies will take the reader through the whole network design process.

2018 / 352pp / £120 / $155
Print **PBTE0770 / 978-1-78561-336-4**
eBook **PBTE077E / 978-1-78561-337-1**

Principles and Applications of Free Space Optical Communications

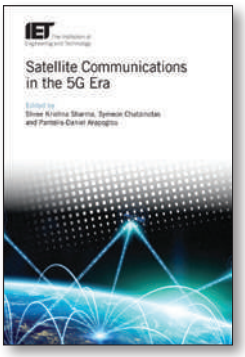


Editors: Arun K. Majumdar et al., Colorado State University-Pueblo, USA

Developed by an international team of experts, this volume covers free space optical (FSO) communication technologies for realising high speed large-capacity terrestrial and aerospace communications. Topics covered include: FSP communication over strong atmospheric turbulence channels; spectral analysis and mitigation of beam wandering using optical spatial filtering; atmospheric turbulence and pointing error models for FSO Communication; diversity and relay-assisted FSO transmission schemes; and more. An ideal book for researchers and professionals in academia and industry working in communications, particularly optical communications and FSO technologies.

2019 / 496pp / £125 / $165
Print **PBTE0780 / 978-1-78561-415-6**
eBook **PBTE078E / 978-1-78561-416-3**

Satellite Communications in the 5G Era



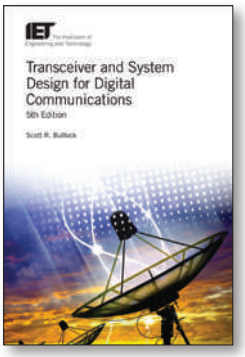
Editors: Shree Krishna Sharma et al., University of Western Ontario, Canada

This title covers state-of-the-art research, challenges and future perspectives in the field of satellite communications. It starts with integrated/hybrid satellite-terrestrial networks, and covers applications in areas such as transport, energy, health, environment, manufacturing, food production and disaster support. It then focuses on emerging technologies for next-generation systems and covers a selection of hot topics. It is ideal for telecommunications engineers and researchers who require a structured guide to the latest advances in the area.

2018 / 600pp / £135 / $175
Print **PBTE0790 / 978-1-78561-427-9**
eBook **PBTE079E / 978-1-78561-428-6**

Transceiver and System Design for Digital Communications

5th Edition



Author: Scott R. Bullock, Besser Associates, USA

With 20% new material, this is the thoroughly revised, updated and expanded new edition of the classic text on transceiver and system design for digital communications. Topics covered include cognitive systems; radar communication; volume search, acquisition and track; optimal waveform CP-PSK; AGC design methods; jammers; GPS; interferometry; error correction and detection; and transceiver design and RF components.

2017 / 552pp / £120 / $190
Print **PBTE0800 / 978-1-78561-495-8**
eBook **PBTE080E / 978-1-78561-496-5**

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Antennas and Propagation for 5G and Beyond	Abbasi, Jilani, Alomainy & Imran (eds)	£125.00	$160.00	978-1-83953-097-5	978-1-83953-098-2	PBTE093
Communication Technologies for Networked Smart Cities	Jayakody, Sharma, Chatzinotas & Anpalagan (Eds)	£125.00	$160.00	978-1-83953-029-6	978-1-83953-030-2	PBTE090
Digital Television Systems: Volume 1: Fundamentals & Broadcast Systems	Mozar & Glasman (Eds)	£120.00	$155.00	978-1-78561-250-3	978-1-78561-251-0	PBTE075
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Real Time Convex Optimisation for 5G Networks and Industrial IoT: Theory, models, techniques and applications	Duong, Nguyen & Hoang	£115.00	$150.00	978-1-78561-959-5	978-1-78561-960-1	PBTE087
Resilience in Wireless Networks	Krishnamurthy	£110.00	$145.00	978-1-84919-790-8	978-1-84919-791-5	PBTE062
The Nine Pillars of Technologies for Industry 4.0	Leong & Chuah (Eds)	£125.00	$165.00	978-1-83953-005-0	978-1-83953-006-7	PBTE088

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Telecommunications - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
5G Wireless Technologies	Alexiou (Ed)	£100.00	$160.00	978-1-78561-061-5	978-1-78561-062-2	PBTE069
Access, Fronthaul and Backhaul Networks for 5G and Beyond	Imran, Zaidi & Shakir (Eds)	£110.00	$175.00	978-1-78561-213-8	978-1-78561-214-5	PBTE074
Advanced Relay Technologies in Next Generation Wireless Communications	Krikidis & Zheng (Eds)	£105.00	$170.00	978-1-78561-003-5	978-1-78561-004-2	PBTE068
Advances in Body-Centric Wireless Communication: Applications and state-of-the-art	Alomainy, Abbasi, Rehman & Qaraqe (Eds)	£95.00	$150.00	978-1-84919-989-6	978-1-84919-990-2	PBTE065
Advances in Satellite Communications: Proceedings of The 36th International Satellite Communications Systems Conference (ICSSC)	Otung, Butash & Garland (Eds)	£135.00	$175.00	978-1-78561-961-8	978-1-78561-962-5	PBTE086
Applications of Machine Learning in Wireless Communications	He & Ding (Eds)	£125.00	$165.00	978-1-78561-657-0	978-1-78561-658-7	PBTE081
Cloud and Fog Computing in 5G Mobile Networks	Markakis, Mastorakis, Mavromoustakis & Pallis (Eds)	£90.00	$145.00	978-1-78561-083-7	978-1-78561-084-4	PBTE070
Cognitive Radio Engineering	Bostian, Kaminski & Fayez	£75.00	$120.00	978-1-61353-211-9	978-161353-212-6	SBTE502
Introduction to Digital Wireless Communications	Yang	£75.00	$120.00	978-1-78561-160-5	978-1-78561-161-2	PBTE072
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Transceivers and System Design for Digital Communications. 5th Edition	Bullock	£120.00	$190.00	978-1-78561-495-8	978-1-78561-496-5	PBTE080
Trusted Communications with Physical Layer Security for 5G and Beyond	Duong, Zhou & Poor (Eds)	£90.00	$145.00	978-1-78561-235-0	978-1-78561-236-7	PBTE076
Understanding Telecommunications Networks, 2nd Edition	Valdar	£50.00	$80.00	978-1-78561-164-3	978-1-78561-165-0	PBTE071

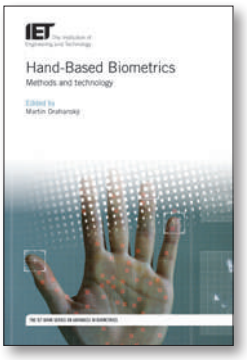
Authentication Technologies for Cloud Computing, IoT and Big Data

Editors: Yasser M. Alginahi & Muhammad N. Kabir, Taibah University, Saudi Arabia & University Pahang Malaysia, Malaysia

This book covers state-of-the-art global research on authentication technologies for security and privacy in information systems, including applications, research challenges and future research directions. Topics include information security, data authentication algorithms, cryptography, digital watermarking, biometric authentication and data authentication. Essential for scientists, engineers and professionals involved in all aspects of authentication and information technology and systems security.

2019 / 368pp / £125 / $160
Print **PBSE0090 / 978-1-78561-556-6**
eBook **PBSE009E / 978-1-78561-557-3**

Hand-Based Biometrics: Methods and technology



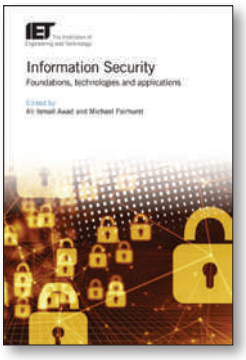
Editor: Martin Drahanský, Brno University of Technology, Czech Republic

This book describes the complete biometrics of the hand, drawing on the latest research of its identifiable characteristics into one unique volume. It includes material on inner and outer hand physiology and diseases; fingerprint recognition and processing; palmprint recognition using 3D features; synthetic fingerprints; palmvein biometrics; finger veins recognition; 3D hand shape recognition; and anti-spoofing methods. Essential reading for researchers, engineers, practitioners, academics, product managers and government agencies in the security, biometrics and image processing fields.

The IET Book Series on Advances in Biometrics

2018 / 448pp / £125 / $160
Print **PBSE0080 / 978-1-78561-224-4**
eBook **PBSE008E / 978-1-78561-225-1**

Information Security: Foundations, technologies and applications

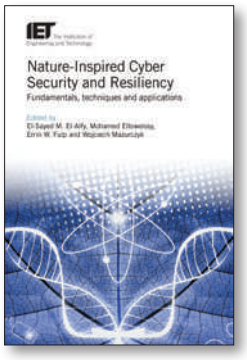


Editors: Ali Ismail Awad & Michael Fairhurst, Luleå University of Technology, Sweden & University of Kent, UK

This book outlines key emerging trends in information security in terms of foundations, technologies and applications. Studies covering information security and real-time challenges are combined with survey material which emphasizes the applications of information security in different domains. This book covers information security foundations such as information security in developing countries, biometrics, cybersecurity, and big data security. It features applications to hardware and embedded systems security, computer forensics, the Internet of Things security, and network security.

2018 / 416pp / £125 / $160
Print **PBSE0010 / 978-1-84919-974-2**
eBook **PBSE001E / 978-1-84919-976-6**

Nature-Inspired Cyber Security and Resiliency: Fundamentals, techniques and applications



Editors: El-Sayed M. El-Alfy et al., King Fahd University of Petroleum and Minerals, Saudi Arabia

This is a timely review of the fundamentals, the latest developments and the diverse applications of nature-inspired algorithms in cyber security and resiliency. Based on concepts from natural processes, phenomena and organisms, it presents novel methodologies to cope with cyber security challenges. Coverage includes intrusion and malware detection, intelligent threat detection and traffic analysis, evolutionary and self-healing security systems, nature-inspired data protection, cooperative and self-configurable cyber defence, and more.

2019 / 480pp / £125 / $165
Print **PBSE0100 / 978-1-78561-638-9**
eBook **PBSE010E / 978-1-78561-639-6**

Security - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Hash Function Cryptanalysis	Roodt & Ko	£115.00	$150.00	978-1-83953-015-9	978-1-83953-016-6	PBSE013
Security, Privacy and Trust in the Internet of Things	Xiao & Zhang	£130.00	$170.00	978-1-78561-203-9	978-1-78561-204-6	PBSE006
The User Experience of Biometrics: Practical considerations for the deployment of biometric systems	Krol & Sasse (Eds)	£120.00	$155.00	978-1-78561-879-6	978-1-78561-880-2	PBSE011
Voice Biometrics: Technology, trust and security	Garcia-Mateo & Chollet (Eds)	£115.00	$150.00	978-1-78561-900-7	978-1-78561-901-4	PBSE012

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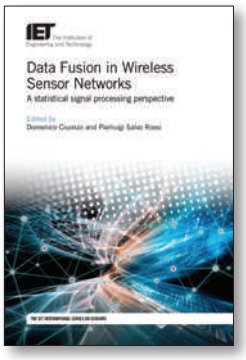
Security - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Authentication Technologies for Cloud Computing, IoT and Big Data	Alginahi & Kabir	£125.00	$160.00	978-1-78561-556-6	978-1-78561-557-3	PBSE009
Data Security in Cloud Computing	Kumar, Ko & Chaisiri (Eds)	£100.00	$160.00	978-1-78561-220-6	978-1-78561-221-3	PBSE007
Engineering Secure Internet of Things Systems	Aziz, Arenas & Crispo (Eds)	£105.00	$165.00	978-1-78561-053-0	978-1-78561-054-7	PBSE002
Hand-Based Biometrics: Methods and technology	Drahanský (Ed)	£125.00	$160.00	978-1-78561-224-4	978-1-78561-225-1	PBSE008
Information Security: Foundations, technologies and applications	Awad & Fairhurst (Eds)	£125.00	$160.00	978-1-84919-974-2	978-1-84919-976-6	PBSE001
Iris and Periocular Biometric Recognition	Rathgeb & Busch (Eds)	£120.00	$190.00	978-1-78561-168-1	978-1-78561-169-8	PBSE005
Mobile Biometrics	Guo & Wechsler (Eds)	£110.00	$175.00	978-1-78561-095-0	978-1-78561-096-7	PBSE003
Nature-Inspired Cyber Security and Resiliency: Fundamentals, techniques and applications	El-Alfy, Eltoweissy, Fulp & Mazurczyk (Eds)	£125.00	$165.00	978-1-78561-638-9	978-1-78561-639-6	PBSE010
User-Centric Privacy and Security in Biometrics	Vielhauer (Ed)	£120.00	$190.00	978-1-78561-207-7	978-1-78561-208-4	PBSE004

Data Fusion in Wireless Sensor Networks: A statistical signal processing perspective



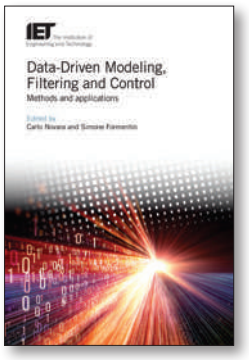
Editors: Domenico Ciuonzo & Peirluigi Salvo Rossi, Network Measurement and Monitoring (NM2) s.r.l, Italy & Norwegian University of Science & Technology, Norway

This essential reference describes the advanced tools required to design state-of-the-art inference algorithms for inference in wireless sensor networks. Written for the signal processing, communications, sensors and information fusion research communities, it is the first book of its kind to cover the emerging area of data fusion in wireless sensor networks. Topics include: sensing model uncertainty; reporting channel uncertainty; distributed inference over graphs; and cross-layer issues. A unique resource for professionals working in wireless sensor networks and related areas.

IET International Book Series on Sensors

2019 / 352pp / £115 / $150
Print PBCE1170 / 978-1-78561-584-9
eBook PBCE117E / 978-1-78561-585-6

Data-Driven Modeling, Filtering and Control: Methods and applications

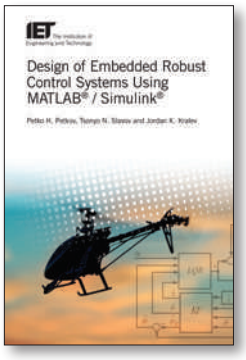


Editors: Carlo Novara & Simone Formentin, Politecnico di Torino, Italy & Politecnico di Milano, Italy

Using important examples, the authors showcase the potential of the latest data-based and data-driven methodologies for filter and control design. They discuss the most important classes of dynamic systems, along with the statistical and set membership analysis and design frameworks. The last section of the book focuses on experimental applications, including control of active suspensions, modelling of wing flutters and identification of Li-ion batteries. Written for researchers and practising engineers in systems and control theory, industrial automation and intelligent control.

2019 / 296pp / £115 / $150
Print PBCE1230 / 978-1-78561-712-6
eBook PBCE123E / 978-1-78561-713-3

Design of Embedded Robust Control Systems Using MATLAB® / Simulink®

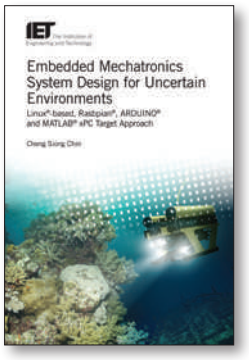


Authors: Petko Hristov Petkov et al., University of Sofia, Bulgaria

This book presents the theoretical and practical aspects of robust control design and implementation using MATLAB® and Simulink®. Combining knowledge from Control System Design and Computer Engineering, it describes the whole design process cycle from uncertainty plant modelling to the embedding of high-order robust controllers in 32-bit DSP and FPGA. It also shows how robust controllers can be implemented in modern digital devices with higher closed-loop performance. Perfect for professionals interested in the design of robust controllers using MATLAB®.

2018 / 536pp / £130 / $170
Print PBCE1130 / 978-1-78561-330-2
eBook PBCE113E / 978-1-78561-331-9

Embedded Mechatronics System Design for Uncertain Environments: Linux®-based, Rasbpian®, ARDUINO® and MATLAB® xPC Target Approach



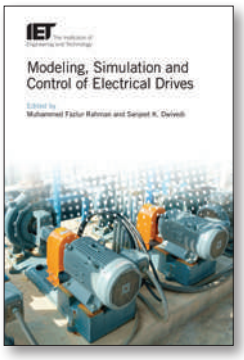
Author: Dr Cheng Siong Chin, Newcastle University, Singapore

Industrial machines, automobiles, airplanes, robots, and machines are among the myriad of possible hosts of embedded systems. The author researches robotic vehicles, especially Underwater Robotic Vehicles (URVs) used for a wide range of applications such as exploring oceans, monitoring environments, and supporting operations in extreme environments. This book has been prepared for those who seek to easily develop embedded systems for control purposes of robotic vehicles. The author proposes new solutions for the prototyping, simulation, testing, and design of real-time systems using standard PC hardware.

2018 / 480pp / £130 / $170
Print PBCE1090 / 978-1-78561-322-7
eBook PBCE109E / 978-1-78561-323-4

Control, Robotics & Sensors - Highlights

Modeling, Simulation and Control of Electrical Drives

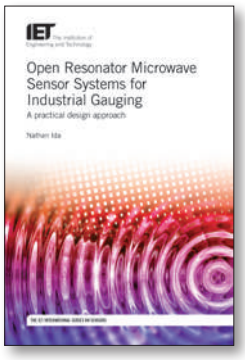


Editors: M.F. Rahman & Sanjeet Kumar Dwivedi, University of New South Wales, Australia & Curtin University, Australia

This book provides insights into state-of-the-art control techniques for different types of AC machines (i.e. Induction Motors, Permanent Magnet Synchronous Motors and Permanent Magnet Brushless DC Motors), as well as up-to-date references along with a framework of the different types of AC machines modeling and control algorithms using MATLAB®/Simulink®. Ideal for professional engineers and practitioners in AC drives, and as an advanced textbook for Masters and PhD students working in the control of electric drives.

2019 / 736pp / £145 / $190
Print PBCE1180 / 978-1-78561-587-0
eBook PBCE118E / 978-1-78561-588-7

Open Resonator Microwave Sensor Systems for Industrial Gauging: A practical design approach



Author: Nathan Ida, University of Akron, USA

This book deals with the sensing of sheet products for a variety of properties including dimensions, moisture, electrical attributes, and curing state, using open microwave resonators. The author introduces the ideas and tools needed, and then presents a coherent, entirely practical approach to the design of open resonator microwave sensors. Ideal for design and production engineers in the rubber, paper, fabrics and wood industries as well as academics in electromagnetics, microwave and sensing specialisations.

IET International Book Series on Sensors

2018 / 416pp / £125 / $160
Print PBCE1030 / 978-1-78561-140-7
eBook PBCE103E / 978-1-78561-141-4

Sensors in the Age of the Internet of Things: Technologies and Applications

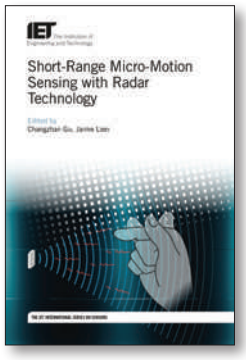
Editors: Octavian Adrian Postolache & Edward Sazonov, Instituto de Telecomunicacoes, Lisbon, Portugal & University of Alabama, USA

This book focuses on the technologies constituting the Internet of Things from a sensor perspective, and describes connected sensors for smart cities, buildings, transportation, smart ports, energy infrastructure, smart home sensing, emergency management, personalised healthcare, precision agriculture and other applications. Starting at the level of physical sensing, it covers network architecture, Internet connectivity and communication protocols for IoT and cyber security. It concludes with methodologies for the integration and processing of sensor information with a focus on relevant sensors for IoT applications.

IET International Book Series on Sensors

2019 / 328pp / £115 / $150
Print PBCE1220 / 978-1-78561-634-1
eBook PBCE122E / 978-1-78561-635-8

Short-Range Micro-Motion Sensing with Radar Technology



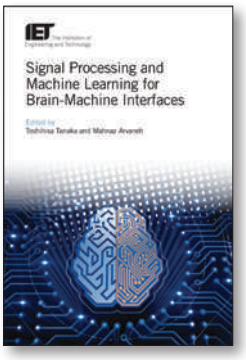
Editors: Changzhan Gu & Jaime Lien, Google Inc., USA

Covering radar sensor hardware, digital signal processing and machine learning, this book introduces the topic of short-range micro-motion sensing using radar and also provides researchers and practitioners with insights into the latest advancements in the area. Perfect for professionals working in RF/microwave technologies, radar signal processing, human-computer interaction and machine learning.

IET International Book Series on Sensors

2019 / 384pp / £120 / $155
Print PBCE1250 / 978-1-78561-760-7
eBook PBCE125E / 978-1-78561-761-4

Signal Processing and Machine Learning for Brain-Machine Interfaces



Editors: Toshihisa Tanaka & Mahnaz Arvaneh, Tokyo University of Agriculture and Technology, Japan & University of Sheffield, UK

This book introduces signal processing and machine learning techniques for Brain Machine Interfacing/Brain Computer Interfacing (BMI/BCI), and their practical and future applications in neuroscience, medicine, and rehabilitation. This is an emerging and challenging technology in engineering, computing, machine learning, neuroscience and medicine. The book will be of interest to researchers, engineers and professionals from all of these areas who need to know more about cutting edge technologies in the field.

2018 / 360pp / £120 / $155
Print PBCE1140 / 978-1-78561-398-2
eBook PBCE114E / 978-1-78561-399-9

Wearable Exoskeleton Systems: Design, control and applications

Editors: Shaoping Bai et al., Aalborg University, Denmark

This book reports the recent advances and technology breakthroughs in exoskeleton developments in the fields of robotics and mechanical design. Topics covered include mechanism design and control involving close human-robot interaction scenarios; human motion intention detection and support; comfort and ergonomics; and safety regulations for various wearable robot applications. The book will be of interest to engineers and researchers in academia as well as manufacturing companies interested in developing new markets in wearable exoskeleton robotics.

2018 / 408pp / £100 / $160
Print PBCE1080 / 978-1-78561-302-9
eBook PBCE108E / 978-1-78561-303-6

Swarm Intelligence

Volume 1: Principles, current algorithms and methods

Volume 2: Innovation, new algorithms and methods

Volume 3: Applications

Editor: Ying Tan, Peking University, China

This 3-volume set is a timely and comprehensive collection covering the principles, new developments, innovations and applications of swarm intelligence algorithms.Volume 1 covers the basic principles and current algorithms and methods of well-known swarm intelligence algorithms and efficient improvements; Volume 2 presents front-edge research with novel and newly proposed algorithms and methods; Volume 3 presents real-world applications of swarm intelligence algorithms and related evolutionary algorithms.

Vol 1: 2018 / 664pp / £140 / $180
Print PBCE119A / 978-1-78561-627-3
eBook PBCE119F / 978-1-78561-628-0

Vol 2: 2018 / 544pp / £130 / $170
Print PBCE119B / 978-1-78561-629-7
eBook PBCE119G / 978-1-78561-630-3

Vol 3: 2018 / 880pp / £145 / $190
Print PBCE119C / 978-1-78561-631-0
eBook PBCE119H / 978-1-78561-632-7

Set: 2018 / £300 / $480
Print PBCE119X / 978-1-78561-633-4

Control, Robotics & Sensors - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Brain Signal Processing to Drive Human-Computer Interaction: EEG and eye-gaze interfaces	Kompatsiaris, Kumar & Nikolopoulos (Eds)	£120.00	$155.00	978-1-78561-919-9	978-1-78561-920-5	PBCE129
Energy Harvesting in Wireless Sensor Networks and Internet of Things	Shaikh & Zeadally (Eds)	£115.00	$145.00	978-1-78561-736-2	978-1-78561-737-9	PBCE124
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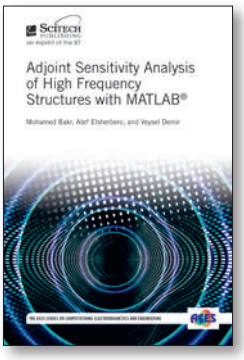
Electromagnetic Waves - Highlights

Adjoint Sensitivity Analysis of High Frequency Structures with MATLAB®



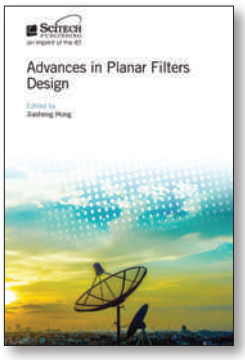
Author: Mohamed Bakr, McMaster University, Canada

This unique reference is the first to cover the theory of adjoint sensitivity analysis and uses the popular FDTD (finite-difference time-domain) method to show how wideband sensitivities can be efficiently estimated for different types of materials and structures. It includes a variety of MATLAB® examples to help readers absorb the content more easily. Topics covered include a review of FDTD and an introduction to adjoint sensitivity analysis; second-order sensitivity analysis; time-domain responses; and applications to nonlinear and anisotropic materials.

The ACES Series on Computational Electromagnetics and Engineering

2017 / 280pp / £95 / $150
Print **SBEW5250 / 978-1-61353-231-7**
eBook **SBEW525E / 978-1-61353-232-4**

Advances in Planar Filters Design



Editor: Jiasheng Hong, Heriot Watt University, Edinburgh, UK

Written by a team of leading experts in the field, this book presents recent advances in the design of RF/microwave planar filters. It covers applications in current and future wireless, microwave, communications and radar systems and looks at topics such as planar millimetre-wave and terahertz filters, microstrip lossy filters, absorptive/reflectionless filters, superconducting filters and planar SIW coaxial resonator filters. This is an ideal resource for research engineers, professionals, specialists, research students and academics working on the topic of RF/microwave filters and related system applications.

2019 / 424pp / £125 / $165
Print **SBEW5350 / 978-1-78561-589-4**
eBook **SBEW535E / 978-1-78561-590-0**

Developments in Antenna Analysis and Design

(2-vol set)

Editor: Raj Mittra, University of Central Florida, USA

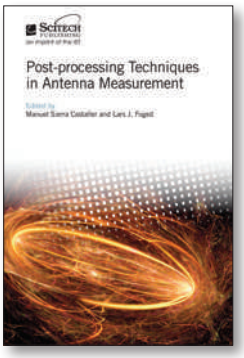
This 2-volume set presents recent developments in antenna design and modeling techniques for a wide variety of applications, chosen because they are contemporary in nature, have been receiving considerable attention in recent years, and are crucial for future developments. It includes topics such as body-worn antennas, that play an important role as sensors for Internet of Things (IoT), and millimeter wave antennas that are vitally important for 5G devices. It also covers a wide frequency range that includes terahertz and optical frequencies. Additionally, it discusses topics such as theoretical bounds of antennas and aspects of statistical analysis that are not readily found in the existing literature.

Vol 1: 2018 / 473pp / £125 / $165
Print **SBEW543A / 978-1-78561-888-8**
eBook **SBEW543F / 978-1-78561-889-5**

Vol 2: 2018 / 403pp / £125 / $165
Print **SBEW543B / 978-1-78561-890-1**
eBook **SBEW543G / 978-1-78561-891-8**

Set: 2018 / £200 / $260
Print **SBEW543X / 978-1-78561-892-5**

Post-processing Techniques in Antenna Measurement

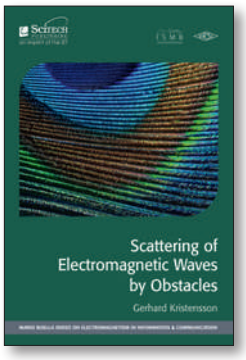


Editors: Manuel Sierra Castañer & Lars J. Foged, Politécnica (Polytechnic) University of Madrid, Spain & Microwave Vision Group (MVG), Italy

This title presents new postprocessing techniques for improving the quality of antenna measurement results. Written by a team of authors and editors from academia and industry, the book gives a balanced, global view of the topic and focuses on source reconstruction techniques, modal filtering, phase recovery and the combination of simulations and measurements. It discusses potential problems for the future, as well as possible solutions, making it an essential read for industry professionals and academics interested in the leading-edge thinking in antenna measurement and design.

2019 / 250pp / £110 / $145
Print **SBEW5290 / 978-1-78561-537-5**
eBook **SBEW529E / 978-1-78561-538-2**

Scattering of Electromagnetic Waves by Obstacles



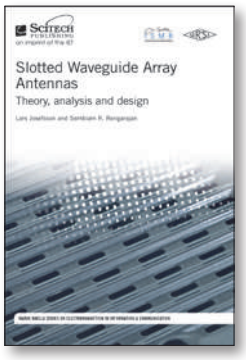
Author: Gerhard Kristensson, Lund University, Sweden

The main purpose of this book is to give a theoretical treatment of the scattering phenomena, and to illustrate numerical computations of some canonical scattering problems for different geometries and materials. The scattering theory is also important in the theory of passive antennas, and this book gives several examples on this topic.

Mario Boella Series on Electromagnetism in Information and Communication

2016 / 760pp / £95 / $149
Print SBEW5240 / 978-1-61353-221-8
eBook SBEW524E / 978-1-61353-222-5

Slotted Waveguide Array Antennas



Authors: Sembiam Rengarajan & Lars Josefsson, California State University, USA & Lars Microwave, Sweden

This is the first comprehensive treatment of slotted waveguide array antennas from an engineering perspective. It provides readers with a thorough foundation in applicable theories as well as hands-on instruction for practical analysis and design of important types of waveguide slot arrays. Slotted Waveguide Array Antennas goes beyond some of the commonly discussed topics and ventures into areas that include: higher order mode coupling and edge effects; performance optimisation in terms of bandwidth and pattern performance and manufacturing tolerances.

Mario Boella Series on Electromagnetism in Information and Communication

2018 / 426pp / £125 / $160
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Electromagnetic Waves - Forthcoming

to be published in 2020 and 2021

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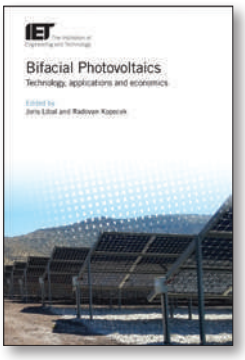
Slotted Waveguide Array Antennas	Rangarajan & Josefsson	£125.00	$160.00	978-1-61353-189-1	978-1-61353-190-7	SBEW517

Bifacial Photovoltaics: Technology, applications and economics

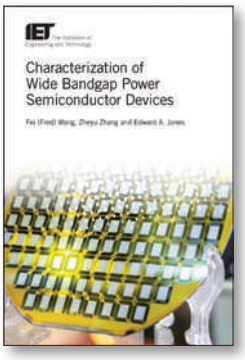


Editors: Radovan Kopecek & Joris Libal, ISC Konstanz, Germany

Bifacial photovoltaic (PV) modules are able to utilize light from both sides and can therefore significantly increase the electric yield of PV power plants, thus reducing the cost and improving profitability. This book provides an overview of the history, status and future of bifacial PV technology with a focus on crystalline silicon technology, covering the areas of cells, modules, and systems. In addition, topics like energy yield simulations and bankability are addressed.

2018 / 344pp / £115 / $150
Print PBPO1070 / 978-1-78561-274-9
eBook PBPO107E / 978-1-78561-275-6

Characterization of Wide Bandgap Power Semiconductor Devices

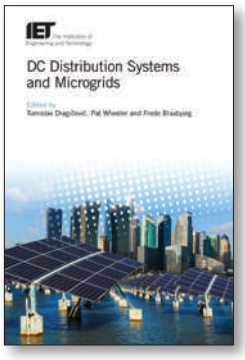


Authors: Fei (Fred) Wang, The University of Tennessee, USA ; Zheyu Zhang, General Electric Global Research, USA ; Edward A. Jones, Efficient Power Conversion Corporation, USA

Bifacial photovoltaic (PV) modules are able to utilize light from both sides and can therefore significantly increase the electric yield of PV power plants, thus reducing the cost and improving profitability. Bifacial PV technology has a huge potential to reach a major market share, in particular when considering utility scale PV plants. This book provides an overview of the history, status and future of bifacial PV technology with a focus on crystalline silicon technology, covering the areas of cells, modules, and systems. In addition, topics like energy yield simulations and bankability are addressed.

2018 / 376pp / £120 / $155
Print PBPO1280 / 978-1-78561-491-0
eBook PBPO128E / 978-1-78561-492-7

DC Distribution Systems and Microgrids

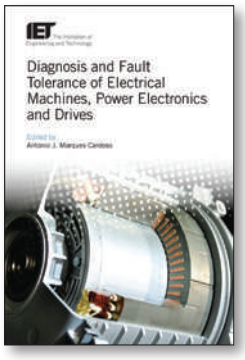


Editors: Tomislav Dragicevic et al., Aalborg University, Denmark

This volume from an international, world-class team is an up-to-date account of control and architectural design of DC distribution systems and microgrids. Ideal for engineers, academics and research students, it covers DC architecture and control, protection, microgrid standards, microgrid-based residential buildings and electric-vehicle charging technology. Practical details are given for real-world systems. It covers coordinated control design for intelligent real-time control of DC distribution systems, and explains stabilisation concepts.

2018 / 457pp / £125 / $160
Print PBPO1150 / 978-1-78561-382-1
eBook PBPO115E / 978-1-78561-383-8

Diagnosis and Fault Tolerance of Electrical Machines, Power Electronics and Drives



Editor: Antonio J. Marques Cardoso, University of Beira Interior, Portugal

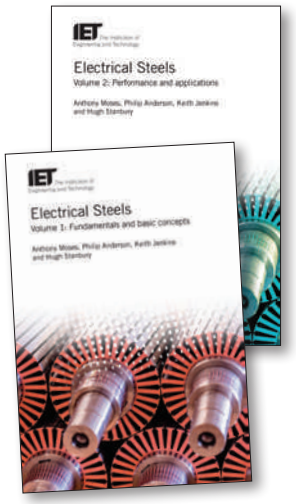
Up-to-date and system-oriented, this is a comprehensive, unified guide to possible faults in electromechatronic systems. It encompasses techniques for fault analysis, diagnostics, condition monitoring methods, reconfiguration, remedial operating strategies and fault tolerance in electrical machines, power electronics and key types of drives. It also covers remnant life estimation. A vital resource for researchers and professionals specialising in the design, development and application of electrical machines and power electronics.

2018 / 376pp / £120 / $155
Print PBPO1260 / 978-1-78561-531-3
eBook PBPO126E / 978-1-78561-532-0

Electrical Steels

Volume 1: Fundamentals and basic concepts

Volume 2: Performance and applications



Authors: Anthony Moses, Philip Anderson, Keith Jenkins and Hugh Stanbury, University of Cardiff, UK

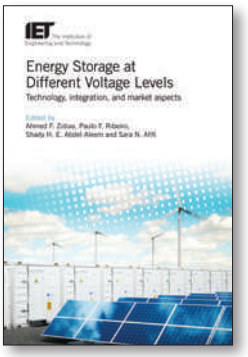
Electrical steels are critical components of magnetic cores used in applications ranging from large rotating machines, including energy generating equipment, and transformers to small instrument transformers and harmonic filters. Presented over two volumes, this comprehensive handbook provides full coverage of the state-of-the-art in electrical steels. Volume 1 covers the fundamentals and basic concepts of electrical steels, including production, differences between alloys and magnetic and mechanic properties. Volume 2 describes performance and outlines applications of electrical steels.

Vol 1: 2019 / 584pp / £135 / $175
Print PBPO157A / 978-1-78561-970-0
eBook PBPO157F / 978-1-78561-971-7

Vol 2: 2019 / 664pp / £125 / $165
Print PBPO157B / 978-1-78561-972-4
eBook PBPO157G / 978-1-78561-973-1

Set: 2019 / £210 / $240
Print PBPO157X / 978-1-78561-974-8

Energy Storage at Different Voltage Levels: Technology, integration, and market aspects

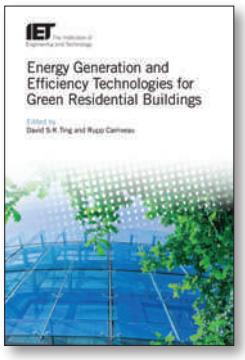


Editors: Ahmed Faheem Zobaa et al., Brunel University, UK

This comprehensive work addresses current and future roles of energy storage, prospects and challenges in the generation, transmission, distribution and customer levels of the grid. An international team of experts disclose scenarios for future storage technologies and electric vehicles. They demonstrate the risks and mitigation solutions for integration problems while illustrating the importance of energy storage in building sustainable modern power system grids. Economic and management aspects are also addressed using case studies.

2018 / 345pp / £115 / $150
Print PBPO1110 / 978-1-78561-349-4
eBook PBPO111E / 978-1-78561-350-0

Energy Generation and Efficiency Technologies for Green Residential Buildings

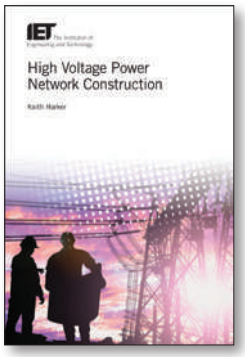


Editors: David S-K. Ting & Rupp Carriveau, University of Windsor, Canada

Residential buildings consume about a quarter of all energy in industrialized countries. Older and outdated heating and cooling technology causes high energy demand and, depending on building type, secondary causes can include ventilation and lighting. This book, written by international experts from academia and industry, presents technologies that reduce a residential building's energy consumption. Local energy generation is a key theme, including the use of sunlight to reduce heating needs, and using photovoltaics for electricity.

2019 / 288pp / £115 / $150
Print PBPO1550 / 978-1-78561-947-2
eBook PBPO155E / 978-1-78561-948-9

High Voltage Power Network Construction

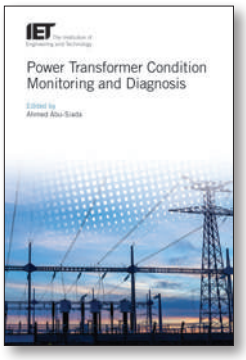


Author: Keith Harker, Consultant

This book is an up-to-date and comprehensive guide for engineers and researchers in high-voltage network construction. The book is structured around three parts: the specification and implementation of a technical solution; the execution of quality management system procedural arrangements; and assurance that all duty holders have the requisite competencies. The book discusses financial aspects; engineering contracts; project management; and health, safety and environmental practice. Interfaces with thermal and renewable power generation are also covered.

2018 / 768pp / £130 / $210
Print PBPO1100 / 978-1-78561-423-1
eBook PBPO110E / 978-1-78561-424-8

Power Transformer Condition Monitoring and Diagnosis

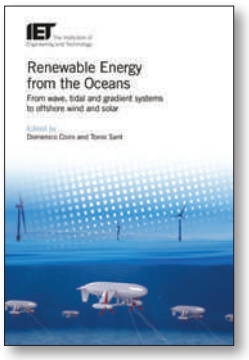


Editor: Ahmed Abu-Siada, Curtin University, Australia

Power transformers are a key asset for electricity utilities around the globe. However aging populations of large power transformers require reliable monitoring systems and diagnostics to extend the asset's lifetime and minimise the possibility of catastrophic failure. This book describes all current power transformer condition monitoring techniques from principles to practice.

2018 / 328pp / £115 / $150
Print PBPO1040 / 978-1-78561-254-1
eBook PBPO104E / 978-1-78561-255-8

Renewable Energy from the Oceans: From wave, tidal and gradient systems to offshore wind and solar

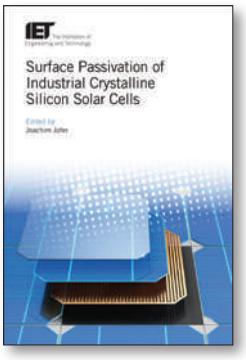


Editors: Tonio Sant & Domenico Coiro, University of Rome 1, Italy

This technology-oriented reference brings together international experts with academic and industry backgrounds to provide a systematic overview of ocean energy technologies. Covering technology, modelling, field experience, installation and grid connection, this is a high level technical overview of ocean renewable energy generation. It examines wave, tidal, current, salinity and thermal energy generation and includes the novel technology of marine solar arrays. The book is written for researchers and engineers involved in mechanical engineering, energy engineering and marine renewable energies.

2019 / 480pp / £125 / $165
Print PBPO1290 / 978-1-78561-766-9
eBook PBPO129E / 978-1-78561-767-6

Surface Passivation of Industrial Crystalline Silicon Solar Cells

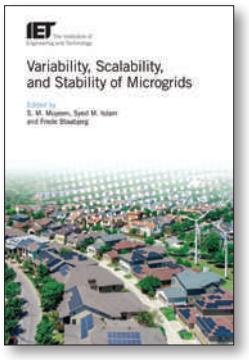


Editor: Joachim John, IMEC, Belgium

Surface passivation of solar cells is a technology for preventing electrons and ions, that have been generated by photons and are supposed to form the photovoltaic current, from recombining prematurely with one another. It thus increases the cell's energy conversion efficiencies and reduces the cost per kWh generated by a PV system. This timely overview of solar cell surface passivation is a key read for researchers working with solar cells, as well as solar cell manufacturers.

2018 / 288pp / £115 / $150
Print PBPO1060 / 978-1-78561-246-6
eBook PBPO106E / 978-1-78561-247-3

Variability, Scalability and Stability of Microgrids



Editors: S. M. Muyeen, et al., Curtin University, Perth, Australia

Here, the authors discuss variability, scalability, and stability of microgrids. They include coverage of virtual plants and storage, providing numerous examples and case studies as well as simulation/experimental results in each chapter. The book covers a broad range of topics such as demand-side energy management, transactive energy, clustered microgrids, virtual power plants and storage, optimizing and sizing of microgrid components. A key reference for engineers, researchers and advanced students in the field of power systems and related power electronics.

2019 / 648pp / £140 / $185
Print PBPO1390 / 978-1-78561-693-8
eBook PBPO139E / 978-1-78561-694-5

Energy Engineering - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advanced Characterization of Thin Film Solar Cells	Al-Jassim & Haegel (Eds)	£115.00	$150.00	978-1-83953-023-4	978-1-83953-024-1	PBPO166
Advanced Dielectric Materials for Electrostatic Capacitors	Li (Ed)	£115.00	$150.00	978-1-78561-988-5	978-1-78561-989-2	PBPO158
Ancillary Services From Wind Power Plants	Iov (Ed)	£120.00	$155.00	978-1-78561-937-3	978-1-78561-938-0	PBPO154
Artificial Intelligence for Smarter Power Systems: Fuzzy Logic and Neural Networks	Simoes	£110.00	$145.00	978-1-83953-000-5	978-1-83953-001-2	PBPO161
Condition Monitoring of Rotating Electrical Machines, 3rd Edition	Tavner, Ran & Crabtree	£120.00	$155.00	978-1-78561-865-9	978-1-78561-866-6	PBPO145
Control and Optimisation of Microgrids	Parisio & Schiffer (Eds)	£125.00	$160.00	978-1-78561-875-8	978-1-78561-876-5	PBPO149
Cooling of Rotating Electrical Machines: Fundamentals, Modelling, Testing and Design	Staton, Pickering, Boglietti & Chong	£110.00	$145.00	978-1-78561-351-7	978-1-78561-352-4	PBPO109
Digital Protection for Power Systems, 2nd Edition	Salman	£115.00	$150.00	978-1-83953-043-2	978-1-83953-044-9	PBPO165
Distribution Systems Analysis and Automation, 2nd Edition	Gers	£120.00	$155.00	978-1-78561-871-0	978-1-78561-872-7	PBPO147
Energy Storage for Power Systems, 3rd Edition	Ter-Gazarian	£115.00	$150.00	978-1-78561-867-3	978-1-78561-868-0	PBPO146
Grid Transformation for 100% Renewable Electricity	Probst, Palacios & Castellanos (Eds)	£120.00	$155.00	978-1-83953-021-0	978-1-83953-022-7	PBPO159
Hydrogen Passivation and Laser Doping for Silicon Solar Cells	Hallam & Chan (Eds)	£110.00	$145.00	978-1-78561-623-5	978-1-78561-624-2	PBPO134
Lightning Electromagnetics, 2nd Edition, Volume 1: Electrodynamics	Cooray, Rachidi & Rubinstein (Eds)	£140.00	$180.00	978-1-78561-539-9	978-1-78561-540-5	PBPO127A
Lightning Electromagnetics, 2nd Edition, Volume 2: Effects and modeling	Cooray, Rachidi & Rubinstein (Eds)	£145.00	$190.00	978-1-78561-541-2	978-1-78561-542-9	PBPO127B
Lightning Electromagnetics, 2nd Edition, 2 Volume Set	Cooray, Rachidi & Rubinstein (Eds)	£200.00	$260.00	978-1-78561-543-6	N/A	PBPO127X
Lightning Interaction with Power Systems: Fundamentals and Modelling	Piantini (Ed)	£125.00	$165.00	978-1-83953-090-6	978-1-83953-091-3	PBPO172A
Lightning Interaction with Power Systems: Applications	Piantini (Ed)	£130.00	$170.00	978-1-83953-092-0	978-1-83953-093-7	PBPO172B
Lightning Interaction with Power Systems: 2 Volume Set	Piantini (Ed)	£205.00	$270.00	978-1-83953-094-4	N/A	PBPO172X
Lightning-Induced Effects in Electrical and Telecommunication Systems	Baba & Rakov	£110.00	$145.00	978-1-78561-353-1	978-1-78561-354-8	PBPO114
Lithium-ion Batteries Enabled by Silicon Anodes	Ban & Xu (Eds)	£115.00	$150.00	978-1-78561-955-7	978-1-78561-956-4	PBPO156
Lithium-ion Batteries: Testing, modeling, state estimation and smart battery applications	Stroe, Meng & Teodorescu (Eds)	£115.00	$150.00	978-1-83953-010-4	978-1-83953-011-1	PBPO164
Matrix Converters: A direct AC/AC power electronic converter technology	Wheeler, Clare, Cardenas & Rivera (Eds)	£110.00	$145.00	978-1-78561-648-8	978-1-78561-649-5	PBPO135
Medium Voltage DC System Architectures	Grainger, Kelly-Pitou & Reed (Eds)	£115.00	$150.00	978-1-78561-844-4	978-1-78561-845-1	PBPO143
Microgrids for Rural Areas: Research and case studies	Chauhan, Chauhan & Singh (Eds)	£115.00	$150.00	978-1-78561-998-4	978-1-78561-999-1	PBPO160
Modelling and Simulation of Complex Power Systems	Monti & Benigni (Eds)	£125.00	$160.00	978-1-78561-404-0	978-1-78561-405-7	PBPO118
Modelling and Simulation of HVDC Transmission	Han & Gole (Eds)	£115.00	$145.00	978-1-78561-380-7	978-1-78561-381-4	PBPO116
Modelling and Simulation of Small Scale Hydro Generation Systems	Wamkeue & Kamwa	£125.00	$160.00	978-1-78561-529-0	978-1-78561-530-6	PBPO122
Modern Control of Power Electronics Systems	Zanchetta, Bifaretti, Mattavelli, Pucci, Zarri & Lidozzi	£120.00	$155.00	978-1-84919-785-4	978-1-84919-786-1	PBPO071

Energy Engineering - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Modular Multilevel Converters for Power Systems	Prieto-Araujo, Gomis-Bellmunt, Ferreria, Junyent-Ferré & Schönleber	£125.00	$165.00	978-1-78561-741-6	978-1-78561-742-3	PBPO140
Monitoring and Control using Synchrophasors in Power Systems with Renewables	Kamwa & Lu (Eds)	£125.00	$160.00	978-1-78561-477-4	978-1-78561-478-1	PBPO121
Performance, Modelling and Reliability of Photovoltaic Systems	Georghiou, Makrides & Phinikarides	£115.00	$150.00	978-1-78561-256-5	978-1-78561-257-2	PBPO103
Photovoltaic Technology for Hot and Arid Environments	Tabet (Ed)	£110.00	$145.00	978-1-78561-911-3	978-1-78561-912-0	PBPO144
Polymeric Insulations for High Voltage Cables	He, Zhou & Li	£115.00	$150.00	978-1-78561-909-0	978-1-78561-910-6	PBPO150
Power Electronic Devices: Applications, failure mechanisms and reliability	Ianuzzo (Ed)	£115.00	$150.00	978-1-78561-917-5	978-1-78561-918-2	PBPO152
Power Electronics Packaging Reliability	Johnson (Ed)	£125.00	$160.00	978-1-78561-252-7	978-1-78561-253-4	PBPO099
Power Grids with Renewable Energy: Storage, Integration and Digitalization	Sallam & Malik	£140.00	$180.00	978-1-83953-027-2	978-1-83953-028-9	PBPO167
Power Quality of Renewable Energy Integration	Liang	£120.00	$155.00	978-1-78561-625-9	978-1-78561-626-6	PBPO133
Reliability of Power Electronics Converters for Grid Connected Photovoltaics	Blaabjerg, Haque, Wang & Jaffery (Eds)	£125.00	$160.00	978-1-83953-116-3	978-1-83953-117-0	PBPO170
SiC Power Module Design: Performance, robustness and reliability	Castellazzi & Irace (Eds)	£115.00	$150.00	978-1-78561-907-6	978-1-78561-908-3	PBPO151
Signal Processing for Electric Machines Systems Faults Detection and Diagnosis	Benbouzid (Ed)	£115.00	$150.00	978-1-78561-957-1	978-1-78561-958-8	PBPO153
Solar to Hydrogen: Technology and Development of Solar Water Splitting	Muñoz	£115.00	$150.00	978-1-78561-691-4	978-1-78561-692-1	PBPO136
Utility-Scale Wind Turbines and Wind Farms	Vasel-Be-Hagh & Ting (eds)	£110.00	$145.00	978-1-83953-099-9	978-1-83953-100-2	PBPO171
Wide Bandgap Semiconductors and their Applications in Power Electronics	Mawby & Ran (Eds)	£115.00	$150.00	978-1-78561-743-0	978-1-78561-744-7	PBPO138
Wind Turbine System Design: Vol. 1: Nacelles, Drive Trains and Verification	Wenske (Ed)	£125.00	$160.00	978-1-78561-856-7	978-1-78561-857-4	PBPO142A
Wind Turbine System Design: Vol. 2: Electrical Systems, Grid Integration, Control and Monitoring	Wenske (Ed)	£125.00	$160.00	978-1-78561-858-1	978-1-78561-859-8	PBPO142B
Wind Turbine System Design (2-volume set)	Wenske (Ed)	£200.00	$250.00	978-1-78561-864-2	N/A	PBPO142X

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Energy Engineering - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advances in Power System Modelling, Control and Stability Analysis	Milano (Ed)	£105.00	$170.00	978-1-78561-001-1	978-1-78561-002-8	PBPO086
Clean Energy Microgrids	Obara & Morel (Eds)	£120.00	$190.00	978-1-78561-097-4	978-1-78561-098-1	PBPO090
Cogeneration and District Energy Systems: Modelling, analysis and optimization	Rosen & Koohi-Fayegh	£110.00	$175.00	978-1-78561-126-1	978-1-78561-127-8	PBPO093
Cogeneration: Technologies, optimisation and implementation	Frangopoulos (Ed)	£100.00	$160.00	978-1-78561-055-4	978-1-78561-056-1	PBPO087
Communication, Control and Security Challenges for the Smart Grid	Muyeen & Rahman (Eds)	£120.00	$190.00	978-1-78561-142-1	978-1-78561-143-8	PBPO095
Control Circuits in Power Electronics: Practical issues in design and implementation	Castilla (Ed)	£95.00	$150.00	978-1-84919-822-6	978-1-84919-823-3	PBPO072
Cyber-Physical-Social Systems and Constructs in Electric Power Engineering	Suryanarayanan, Hansen & Roche (Eds)	£110.00	$180.00	978-1-84919-936-0	978-1-84919-937-7	PBPO081

Energy Engineering - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Electrical Steels (2-volume set)	Moses, Jenkins, Anderson & Stanbury	£210.00	$240.00	978-1-78561-974-8	N/A	PBPO157X
Fault Diagnosis for Robust Inverter Power Drives	Ginart (Ed)	£115.00	$150.00	978-1-78561-410-1	978-1-78561-411-8	PBPO120
Fault Diagnosis of Induction Motors	Faiz, Ghorbanian & Joksimović	£120.00	$190.00	978-1-78561-328-9	978-1-78561-329-6	PBPO108
Fuzzy Logic Control in Energy Systems with design applications in MATLAB®/Simulink®	Altas	£110.00	$175.00	978-1-78561-107-0	978-1-78561-108-7	PBPO091
Hydrogen Production, Separation and Purification for Energy	Basile, Dalena, Tong & Veziroğlu (Eds)	£105.00	$165.00	978-1-78561-100-1	978-1-78561-101-8	PBPO089
Industrial Power Systems with Distributed and Embedded Generation	Belu	£140.00	$180.00	978-1-78561-152-0	978-1-78561-153-7	PBPO096
Introduction to the Smart Grid: Concepts, technologies and evolution	Salman K. Salman	£100.00	$160.00	978-1-78561-119-3	978-1-78561-120-9	PBPO094
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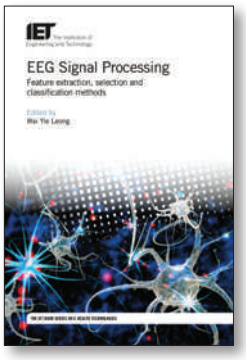
Metaheuristic Optimization in Power Engineering	Radosavljević	£135.00	$175.00	978-1-78561-546-7	978-1-78561-547-4	PBPO131
Methane and Hydrogen for Energy Storage	Ting & Carriveau (Eds)	£90.00	$145.00	978-1-78561-193-3	978-1-78561-194-0	PBPO101
Modeling and Dynamic Behaviour of Hydropower Plants	Kishor & Fraile-Ardunuy (Eds)	£120.00	$190.00	978-1-78561-195-7	978-1-78561-196-4	PBPO100
Periodic Control of Power Electronic Converters	Blaabjerg, Zhou, Wang & Yang	£90.00	$145.00	978-1-84919-932-2	978-1-84919-933-9	PBPO082
Power Distribution Automation	Das (Ed)	£90.00	$145.00	978-1-84919-828-8	978-1-84919-829-5	PBPO075
Power Line Communication Systems for Smart Grids	Casella & Anpalagan (Ed)	£125.00	$165.00	978-1-78561-550-4	978-1-78561-551-1	PBPO132
Power Market Transformation: Reducing emissions and empowering consumers	Murray	£100.00	$160.00	978-1-78561-481-1	978-1-78561-482-8	PBPO124
Power Quality in Future Electrical Power Systems	Zobaa & Aleem (Eds)	£120.00	$190.00	978-1-78561-123-0	978-1-78561-124-7	PBPO092
Power Systems Electromagnetic Transients Simulation, 2nd Edition	Watson	£135.00	$175.00	978-1-78561-499-6	978-1-78561-500-9	PBPO123
Smarter Energy: from smart metering to the smart grid	Sun, Hatziargyriou & Poor (Eds)	£120.00	$190.00	978-1-78561-104-9	978-1-78561-105-6	PBPO088
Structural Control and Fault Detection of Wind Turbine Systems	Karimi (Ed)	£115.00	$150.00	978-1-78561-394-4	978-1-78561-395-1	PBPO117
Synchronized Phasor Measurements for Smart Grids	Mohanta & Reddy (Eds)	£110.00	$175.00	978-1-78561-011-0	978-1-78561-012-7	PBPO097
Thermal Power Plant Control and Instrumentation: The control of boilers and HRSGs, 2nd edition	Lindsley, Grist & Parker	£120.00	$155.00	978-1-78561-419-4	978-1-78561-420-0	PBPO119
Wave and Tidal Generation Devices: Reliability and availability	Tavner	£90.00	$150.00	978-1-84919-734-2	978-1-84919-735-9	PBRN018
Wide Area Monitoring, Protection and Control Systems: The enabler for smarter grids	Vacarro & Zobaa (Eds)	£85.00	$135.00	978-1-84919-830-1	978-1-84919-831-8	PBPO073
Wind and Solar Based Energy Systems for Communities	Carriveau & Ting	£100.00	$160.00	978-1-78561-544-3	978-1-78561-545-0	PBPO130
Wind Energy Modeling and Simulation: Volume 1: Atmosphere and Plant	Veers (Ed)	£110.00	$145.00	978-1-78561-521-4	978-1-78561-522-1	PBPO125A
Wind Energy Modeling and Simulation: Volume 2: Turbine and System	Veers (Ed)	£110.00	$145.00	978-1-78561-523-8	978-1-78561-524-5	PBPO125B
Wind Energy Modeling and Simulation (2-volume set)	Veers (Ed)	£175.00	$230.00	978-1-78561-528-3	N/A	PBPO125X
Wireless Power Transfer: Theory, technology, and applications	Shinohara (Ed)	£115.00	$150.00	978-1-78561-346-3	978-1-78561-347-0	PBPO112

Please also refer to the **Highlights** Section for additional books.

EEG Signal Processing: Feature extraction, selection and classification methods



Editor: Wai Yie Leong, Taylor's University, Malaysia

This book presents state of the art aspects of EEG signal processing methods used for feature extraction, feature selection and feature classification to discriminate among several mental tasks. It emphasizes advanced strategies, case studies, clinical practices and applications such as EEG for meditation, auditory selective attention, sleep apnoea; person authentication; handedness detection, Parkinson's disease, motor imagery, smart air travel support and brain signal classification.

2018 / 296pp / £110 / $145
Print PBHE0160 / 978-1-78561-370-8
eBook PBHE016E / 978-1-78561-371-5

Engineering High Quality Medical Software: Regulations, standards, methodologies and tools for certification

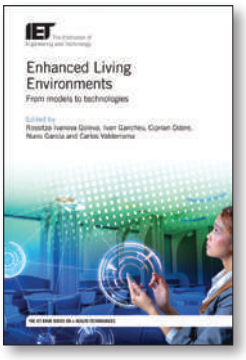
Author: Antonio Coronato, National Research Council of Italy, Italy

This one-stop reference focuses on high-confidence medical software in the growing field of e-health, telecare services and health technology. It covers the development of methodologies and engineering tasks together with standards and regulations for medical software. Key topics covered include configuration, design, verification and validation, risk management, testing and maintenance. This book is written for research-focused engineers, scientists and practitioners who focus on healthcare software and e-health platforms and technologies.

The IET Book Series on e-Health Technologies

2018 / 296pp / £100 / $160
Print PBHE0120 / 978-1-78561-248-0
eBook PBHE012E / 978-1-78561-249-7

Enhanced Living Environments: From models to technologies



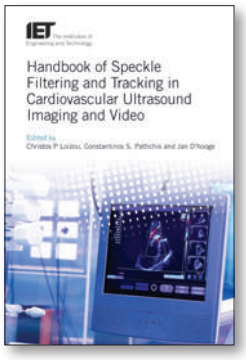
Editors: Rossitza Ivanova Goleva et al., Technical University of Sofia, Bulgaria

This book presents state-of-the-art technological solutions and supporting systems such as resource and data management, fault tolerance, security, monitoring and control. The book's editors are part of The Enhanced Living Environments (ELE) project, which promotes the provision of infrastructures and services for autonomous living via the seamless integration of ICT within homes and residences. The book offers a coherent and realistic image of architectures, techniques, protocols, and cloud-based solutions related to ELE and to Ambient Assisted Living (AAL).

The IET Book Series on e-Health Technologies

2017 / 408pp / £100 / $160
Print PBHE0100 / 978-1-78561-211-4
eBook PBHE010E / 978-1-78561-212-1

Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video



Editors: Christos P. Loizou et al., Cyprus University of Technology, Cyprus

This is the first book to combine speckle imaging and video filtering and tracking, and their applications to provide different levels of material to researchers interested in developing imaging and video systems with better quality by limiting the corruption of speckle noise in their systems. Topics covered include: Physics of speckle noise; Despeckle filtering (linear, nonlinear, and wavelet); Speckle Tracking; Block Matching; Strain Calculation and Analysis; Segmentation; and Texture Analysis.

2018 / 704pp / £130 / $210
Print PBHE0130 / 978-1-78561-290-9
eBook PBHE013E / 978-1-78561-291-6

Healthcare Technologies - Highlights

Human Monitoring, Smart Health and Assisted Living: Techniques and technologies

Editors: Sauro Longhi et al., Università Politecnica delle Marche, Italy

This book explores the use of techniques and technologies within ICT for the improvement of human quality of life - encompassing patient monitoring, data analysis and assistive services. Also discussed are the future challenges to develop effective and efficient healthcare and assistive systems for our current and future society. The book offers an interdisciplinary approach to the study of human monitoring, smart health and assisted living, under a unifying point of view to improve Quality of Life Technology (QoLT).

2017 / 240pp / £90 / $145
Print PBHE0090 / 978-1-78561-150-6
eBook PBHE009E / 978-1-78561-151-3

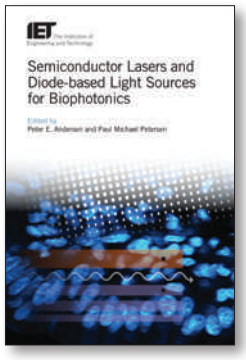
Portable Biosensors and Point-of-Care Systems

Editor: Spyridon E. Kintzios, Agricultural University of Athens, Greece

With views from international experts providing a variety of perspectives, this book describes the principles, design and applications of a new generation of analytical and diagnostic biomedical devices, characterised by their very small size, ease of use, multi-analytical capabilities and speed to provide handheld and mobile point-of-care (POC) diagnostics. It covers topics such as the history, development, latest research and applications of portable biosensors, ranging from the support of primary healthcare to food and environmental safety screening.

2017 / 384pp / £125 / $200
Print PBHE0030 / 978-1-84919-962-9
eBook PBHE003E / 978-1-84919-963-6

Semiconductor Lasers and Diode-based Light Sources for Biophotonics



Editors: Peter E. Andersen & Paul Michael Petersen, Technical University of Denmark, Denmark

From a team of international experts in the field, this reference takes readers from the fundamentals to the technologies and applications of bio-optics and biophotonics. It covers recent advances in semiconductor materials, visible and NIR lasers, LEDs, blue lasers, quantum cascade lasers, SDLs and their photochemical applications, near-IR imaging, Raman spectroscopy, and optical coherence tomography. Ideal for researchers and practitioners in medical optics, medical imaging, biophotonics, applied optics, and semiconductor and laser science.

2018 / 480pp / £130 / $170
Print PBHE0070 / 978-1-78561-272-5
eBook PBHE007E / 978-1-78561-273-2

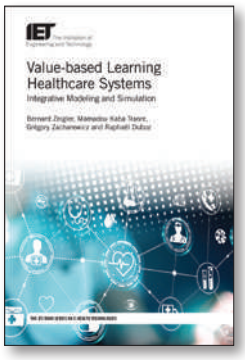
Soft Robots for Healthcare Applications: Design, modelling and control

Authors: Shane Xie et al., The University of Auckland, New Zealand

This book presents a systematic investigation of the design, modelling and control of soft robots operated by pneumatic muscle actuators (PMAs). It includes a thorough review of the research in the field, and new insights into emerging technologies and developments for use in soft robots for healthcare. It also demonstrates applications of mechatronics to provide better clinical rehabilitation services. This book will provide biomedical engineering and robotics professionals and students with the fundamental mechatronics engineering knowledge to analyse and design new soft devices.

2017 / 240pp / £90 / $145
Print PBHE0140 / 978-1-78561-311-1
eBook PBHE014E / 978-1-78561-312-8

Value-based Learning Healthcare Systems: Integrative modeling and simulation



Authors: Bernard P. Zeigler et al., University of Arizona, USA

This book presents an innovative, unique and holistic approach to modeling and simulation approaches in healthcare management. From system architecture to modeling methodology, this book shows how to improve patient health and costs of care via the design and implementation of an efficient infrastructure. The framework, algorithms and methods are evaluated in real community environments. Researchers and professionals in health informatics, technology and policy will find this book invaluable.

The IET Book Series on e-Health Technologies

2018 / 376pp / £125 / $165
Print **PBHE0150 / 978-1-78561-326-5**
eBook **PBHE015E / 978-1-78561-327-2**

Wearable Technologies and Wireless Body Sensor Networks for Healthcare

Editors: Fernando José Velez & Fardin Derogarian Miyandoab, Universidade da Beira Interior, Portugal

This book is dedicated to the use of sensor devices, smart textiles and other wearable technologies applied to smart sensing in healthcare. The book includes discussions on activity recognition, RF propagation and channel measurement. They also cover modelling, medium access and control sub-layer protocols, cognitive radio, textile materials and security aspects. Energy harvesting within wearable solutions is also considered. Ideal for researchers and advanced students working in wearable technologies and wireless body sensor networks, especially those with a focus on healthcare applications.

The IET Book Series on e-Health Technologies

2019 / 600pp / £140 / $180
Print **PBHE0110 / 978-1-78561-217-6**
eBook **PBHE011E / 978-1-78561-218-3**

Healthcare Technologies - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advances in Telemedicine for Health Monitoring: Technologies, design and applications	Rashid, Chakraborty & Fraser (Eds)	£120.00	$155.00	978-1-78561-986-1	978-1-78561-987-8	PBHE023
Blockchain and Machine Learning for e-Healthcare Systems	Balamurugan, Chilamkurti, Beena & Thangamuthu (Eds)	£125.00	$160.00	978-1-83953-114-9	978-1-83953-115-6	PBHE029
Control of Prosthetic Hands: Emerging avenues and challenges	Nazarpour (Ed)	£115.00	$150.00	978-1-78561-984-7	978-1-78561-985-4	PBHE022
Handbook of Cybersecurity for eHealth	Buchanan & Chute (Eds)	£130.00	$170.00	978-1-78561-764-5	978-1-78561-765-2	PBHE018
Healthcare Technologies for Elderly Populations	Davis (Ed)	£120.00	$155.00	978-1-83953-112-5	978-1-83953-113-2	PBHE030
Millimeter-wave Imaging for Biomedical Applications	Tavassolian & Mirbeik-Sabzevari	£115.00	$150.00	978-1-78561-949-6	978-1-78561-950-2	PBHE021
Mobile Technologies for Delivering Healthcare in Remote, Rural or Developing Regions	Ray	£125.00	$160.00	978-1-83953-047-0	978-1-83953-048-7	PBHE024
Neurotechnology: Methods, advances and applications	de Albuquerque, Aristotle & Ribeiro (Eds)	£120.00	$155.00	978-1-78561-813-0	978-1-78561-814-7	PBHE019
Patient-Centered Healthcare Technology: The way to better health	Goldschmidt & Relova (Eds)	£110.00	$145.00	978-1-78561-565-8	978-1-78561-566-5	PBHE017
Security and Privacy of Electronic Healthcare Records: Concepts, paradigms and solutions	Tanwar, Tyagi & Kumar (Eds)	£125.00	$160.00	978-1-78561-898-7	978-1-78561-899-4	PBHE020
Technologies and Techniques in Gait Analysis: Past, present and future	Chockalingam (Ed)	£125.00	$160.00	978-1-83953-131-6	978-1-83953-132-3	PBHE031
Wireless Medical Sensor Networks for IoT-eHealth	Al-Turjman (Ed)	£115.00	$150.00	978-1-83953-056-2	978-1-83953-057-9	PBHE026

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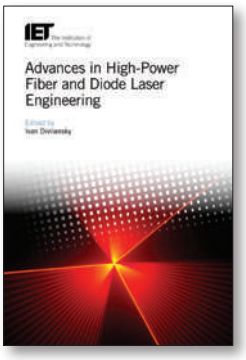
Healthcare Technologies - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Active and Assisted Living: Technologies and applications	Florez-Revuelta & Chaaraoui (Eds)	£110.00	$170.00	978-1-84919-987-2	978-1-84919-988-9	PBHE006
Biomedical Nanomaterials: From design to implementation	Webster & Yazici (Eds)	£105.00	$170.00	978-1-84919-964-3	978-1-84919-965-0	PBHE004
EEG Signal Processing: Feature extraction, selection and classification methods	Leong (Ed)	£110.00	$145.00	978-1-78561-370-8	978-1-78561-371-5	PBHE016
Engineering High Quality Medical Software: Regulations, standards, methodologies and tools for certification	Coronato	£100.00	$160.00	978-1-78561-248-0	978-1-78561-249-7	PBHE012
Enhanced Living Environments: From Models to Technologies	Dobre, Valderrama, Ganchev, Garcia & Goleva (Eds)	£100.00	$160.00	978-1-78561-211-4	978-1-78561-212-1	PBHE010
Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video	Loizou, Pattichis & D'Hooge (Eds)	£130.00	$210.00	978-1-78561-290-9	978-1-78561-291-6	PBHE013
Human Monitoring, Smart Health and Assisted Living: Techniques and technologies	Longhi, Monteriu & Freddi (Eds)	£90.00	$145.00	978-1-78561-150-6	978-1-78561-151-3	PBHE009
Machine Learning for Healthcare Technologies	Clifton (Ed)	£95.00	$150.00	978-1-84919-978-0	978-1-84919-979-7	PBHE002
Nanobiosensors for Personalized and Onsite Biomedical Diagnosis	Chandra (Ed)	£105.00	$175.00	978-1-84919-950-6	978-1-84919-951-3	PBHE001
Portable Biosensors and Point-of-Care Systems	Kintzios (Ed)	£125.00	$200.00	978-1-84919-962-9	978-1-84919-963-6	PBHE003
Semiconductor Lasers and Diode-based Light Sources for Biophotonics	Andersen & Petersen (Eds)	£130.00	$170.00	978-1-78561-272-5	978-1-78561-273-2	PBHE007
Soft Robots for Healthcare Applications: Design, modelling and control	Xie, Zhang & Meng	£90.00	$145.00	978-1-78561-311-1	978-1-78561-312-8	PBHE014
Value-based Learning Healthcare Systems: Integrative modeling and simulation	Zeigler, Traore, Zacharewicz & Duboz	£125.00	$165.00	978-1-78561-326-5	978-1-78561-327-2	PBHE015
Wearable Technologies and Wireless Body Sensor Networks for Healthcare	Velez & Miyandoab (Eds)	£140.00	$180.00	978-1-78561-217-6	978-1-78561-218-3	PBHE011

Advances in High-Power Fiber and Diode Laser Engineering



Editor: Ivan Divliansky, University of Central Florida, USA

Written by a team of authors with experience in academia and industry, and brought together by an expert editor with a dual background in electrical engineering and materials science, this book is for engineers in laser systems development at the laboratory or commercial scale. The book covers fiber and diode laser systems from academic and industrial perspectives, discusses the latest trends in high-power fiber laser development and applications, offers an overview of developments in diode laser systems, and addresses advanced applications of high-power lasers.

2019 / 350pp / £120 / $155
Print PBCS0540 / 978-1-78561-751-5
eBook PBCS054E / 978-1-78561-752-2

NEW

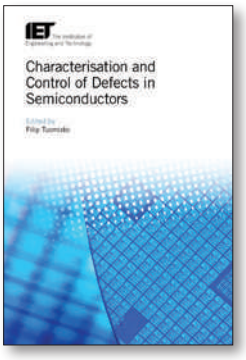
Asynchronous Circuit Applications

Editors: Jia Di & Scott Smith, University of Arkansas, USA & North Dakota State University, USA

Taking an application-focused approach, the book helps to bridge the gap between laboratory and commercial scale research and development of asynchronous circuits. Each application is accompanied by the corresponding circuit design theory, sample circuit implementations, results and analysis. The book is ideal for academic researchers and students looking to broaden their thinking in asynchronous applications and design methodologies, and for engineers looking for practical guidance when considering the incorporation of asynchronous circuits into commercial applications.

2020 / 350pp / £120 / $155
Print PBCS0610 / 978-1-78561-817-8
eBook PBCS061E / 978-1-78561-818-5

Characterisation and Control of Defects in Semiconductors

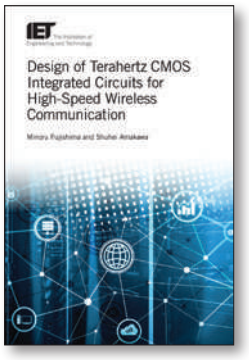


Editor: Filip Tuomisto, Aalto University, Finland

An up-to-date review of the experimental and theoretical methods used for studying defects in semiconductors, this book focuses on recent developments driven by the requirements of new materials, including nitrides, oxide semiconductors and 2-D semiconductors. Written by an international team, and edited by a highly regarded researcher in the field, the book provides thorough coverage of a variety of characterisation techniques and suggests methods for controlling the defects and hence the properties of semiconductors.

2019 / 500pp / £130 / $170
Print PBCS0450 / 978-1-78561-655-6
eBook PBCS045E / 978-1-78561-656-3

Design of Terahertz CMOS Integrated Circuits for High-Speed Wireless Communication



Authors: Minoru Fujishima & Shuhei Amakawa, Hiroshima University, Japan

The book is the first to describe recent research on terahertz CMOS design for high-speed wireless communication in the post-5G world. The topics covered include fundamental technologies for terahertz CMOS design; theory and practical examples of building blocks; transceiver architectures; considerations for 300GHz-band communications; and future prospects. Written by leading names in the field, this is a vital resource for researchers and professional circuit designers working in RFIC and CMOS design for telecommunications.

2019 / 224pp / £110 / $145
Print PBCS0350 / 978-1-78561-387-6
eBook PBCS035E / 978-1-78561-388-3

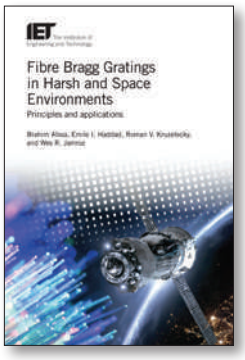
Digitally Enhanced Mixed Signal Systems

Editors: Chadi Jabbour et al., University of Bordeaux, France

Edited by three leading names in the field, this book discusses how digitally enhanced analogue and mixed signal techniques can be used to address challenges of shrinking CMOS technology. The book introduces the main trends in current digitally enhanced systems, and gives a discussion of the impact of shrinking technology, as well as an overview of the principles of non-linear models. The book then discusses predistortion and post-distortion techniques, analogue-to-digital and digital-to-analogue converters, I/Q mismatches in direct conversion transceivers, and clock generation.

2019 / 384pp / £120 / $155
Print **PBCS0400 / 978-1-78561-609-9**
eBook **PBCS040E / 978-1-78561-610-5**

Fibre Bragg Gratings in Harsh and Space Environments: Principles and applications



Authors: Aissa, Haddad, Kruzelecky & Jamroz

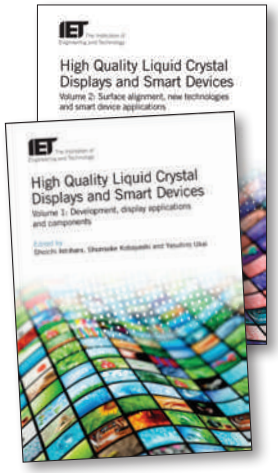
This book addresses the critical challenge of developing novel and efficient Fibre Bragg Gratings for applications that require operation in harsh environments. Coverage ranges from basic principles through design, fabrication, and testing to the industrial implementation of high temperature and radiation-resistant optical fibres, with performance optimisation being a key theme.

2019 / 232pp / £110 / $145
Print **PBCS0690 / 978-1-78561-980-9**
eBook **PBCS069E / 978-1-78561-981-6**

High Quality Liquid Crystal Displays and Smart Devices

Volume 1: Development, display applications and components

Volume 2: Surface alignment, new technologies and smart device applications



Editors: Shoichi Ishihara, Osaka Institute of Technology, Japan ; Shunsuke Kobayashi, Tokyo University of Agriculture and Technology, Japan ; Yasuhiro Ukai, Ukai Display Device Institute, Japan

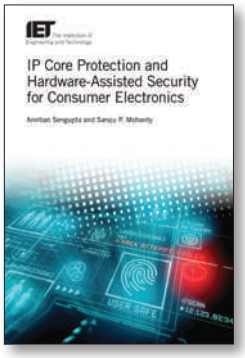
This two-volume set discusses the latest developments in liquid crystal display (LCD) technologies, celebrating 50 years since they were first demonstrated. There is a particular focus on display quality such as image sticking, contrast ratio and colour hue, while current and future trends in materials and technologies are discussed in detail. Volume 1 provides a review of the development of the technology and details display applications and technical aspects of key components. Volume 2 covers surface alignment issues, new technologies and smart device applications.

Vol 1: 2019 / 416pp / £120 / $155
Print **PBCS068A / 978-1-78561-925-0**
eBook **PBCS068F / 978-1-78561-926-7**

Vol 2: 2019 / 408pp / £120 / $155
Print **PBCS068B / 978-1-78561-923-6**
eBook **PBCS068G / 978-1-78561-924-3**

Set: 2019 / £190 / $250
Print **PBCS068X / 978-1-78561-939-7**

IP Core Protection and Hardware-Assisted Security for Consumer Electronics

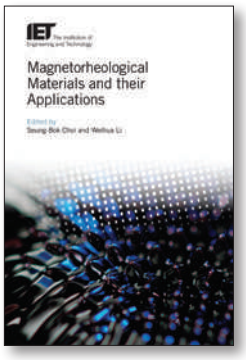


Authors: Anirban Sengupta & Saraju Mohanty, Indian Institute of Technology, India & University of North Texas, USA

This book addresses hardware protection (especially DSP cores) in consumer electronics, plus the potential security threats from intervention in the consumer electronics design supply chain, and how such threats can be circumvented. Supply chain security solutions covered include hardware watermarking, hardware fingerprinting, symmetrical IP core protection, hardware metering, computational forensic engineering for IP core protection and various forms of hardware obfuscation.

2019 / 552pp / £135 / $175
Print **PBCS0600 / 978-1-78561-799-7**
eBook **PBCS060E / 978-1-78561-800-0**

Magnetorheological Materials and their Applications

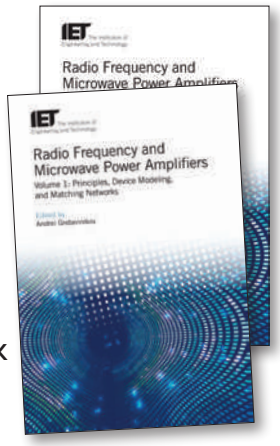


Editors: Seung-Bok Choi & Weihua Li, Inha University, South Korea & University of Wollongong, Australia

This title addresses the hot topic of magneto-rheological (MR) materials in the field of smart materials research. The book introduces three MR materials: magneto-rheological fluids, magneto-rheological elastomers and a newly developed magneto-rheological plastomer, and explores their material properties, related modelling techniques and applications. The book offers insights into the relationships between the properties and characterisation of MR materials and their current and future applications, making it valuable reading for researchers, engineers and graduate students who work in the field of smart materials and structures.

2019 / 448pp / £125 / $165
Print **PBCS0580 / 978-1-78561-770-6**
eBook **PBCS058E / 978-1-78561-771-3**

Radio Frequency and Microwave Power Amplifiers



Volume 1: Principles, device modeling and matching networks

Volume 2: Efficiency and linearity enhancement techniques

Editor: Andrei Grebennikov, Sumitomo Electric Europe Ltd, UK

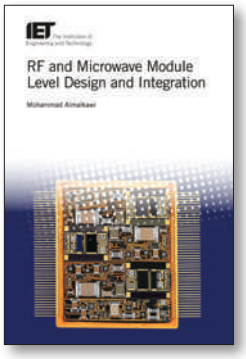
Radio Frequency and Microwave Power Amplifiers are finding an increasingly broad range of applications, particularly in communications and broadcasting, but also in the industrial, medical, automotive, aviation, military, and sensing fields. Each application has its own design specifications. Written by experts in the field, this 2 volume set aims to provide comprehensive, state-of-the-art coverage of RF and microwave power amplifier design with in-depth descriptions of current and potential future approaches.

Vol 1: 2019 / 586pp / £135 / $175
Print **PBCS071A / 978-1-83953-036-4**
eBook **PBCS071F / 978-1-83953-037-1**

Vol 2: 2019 / 500pp / £130 / $170
Print **PBCS071B / 978-1-83953-038-8**
eBook **PBCS071G / 978-1-83953-039-5**

Set: 2019 / £x / $275
Print **PBCS071X / 978-1-83953-040-1**

RF and Microwave Module Level Design and Integration

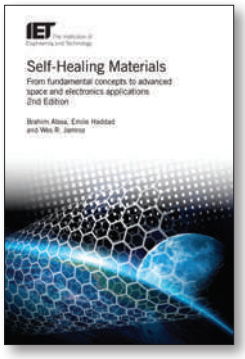


Author: Mohammad J. Almalkawi, University of Toledo, USA

Describes the design and development of modern multi-chip RFIC modules. The book starts with a comprehensive introduction to the basic elements of RFIC modules, followed by an examination of system-level concepts and measures that can be applied to real-world designs. With a strong emphasis on design and integration, the book also gives practical solutions to commonly encountered challenges in RF multi-chip modules, including system integration, network loss-reduction, electromagnetic compatibility, crosstalk reduction, computer-aided design and methodologies, and system-level performance via common RF measurements.

2019 / 360pp / £120 / $155
Print **PBCS0340 / 978-1-78561-359-3**
eBook **PBCS034E / 978-1-78561-360-9**

Self-Healing Materials: From fundamental concepts to advanced space and electronics applications



2nd Edition

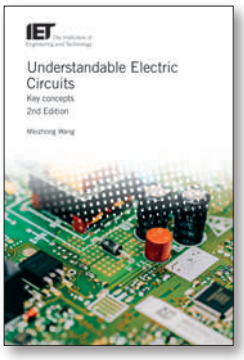
Authors: Brahim Aïssa, Emile I. Haddad and Wes R. Jamroz, MPB Communications Inc., Canada

Self-healing materials are an emerging class of smart materials that repair themselves from damage, either spontaneously or under a stimulus such as light, heat, or the application of a solvent. Intended for an audience of researchers in academia and industry, this revised, expanded and updated second edition addresses the key concepts of self-healing processes, from their occurrences in nature through to recent advances in academic and industrial research, with emphasis on their performance in the space environment.

2019 / 240pp / £110 / $145
Print **PBCS0700 / 978-1-78561-992-2**
eBook **PBCS070E / 978-1-78561-993-9**

Understandable Electric Circuits: Key concepts

2nd edition

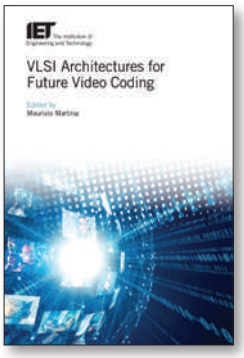


Author: Meizhong Wang, College of New Caledonia, Canada

This book offers a thorough reference guide to the theory, elements and design of basic electronic circuits, providing a solid foundation for those who plan to move into the field of electronics engineering, and essential information for anyone who uses electronic circuitry in their profession or research. This fully revised, expanded and updated new edition contains new chapters as well as additional new content that builds on existing coverage from the successful first edition.

2019 / 456pp / £120 / $155
Print PBCS0470 / 978-1-78561-697-6
eBook PBCS047E / 978-1-78561-698-3

VLSI Architectures for Future Video Coding



Editor: Maurizio Martina, Politecnico di Torino, Italy

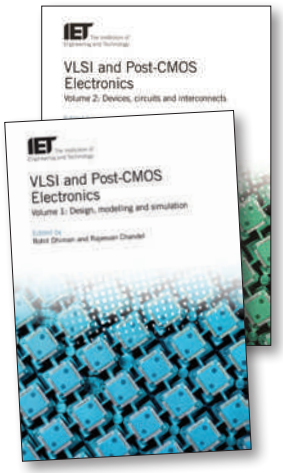
This book examines future video coding from the perspective of hardware implementation and architecture design. The book identifies challenges in deploying VLSI architectures for video coding and postulates potential solutions with reference to recent research. It also includes an overview of the designs, techniques and paradigms likely to be exploited in the design of VLSI architectures for future video-coding systems. This is an important resource for academics and industry professionals working on VLSI implementation of video codecs, algorithms and high-level systems for video compression.

2019 / 300pp / £115 / $145
Print PBCS0530 / 978-1-78561-710-2
eBook PBCS053E / 978-1-78561-711-9

VLSI and Post-CMOS Electronics

Volume 1: Design, modelling and simulation

Volume 2: Materials, devices and interconnects



Editors: Rohit Dhiman and Rajeevan Chandel, National Institute of Technology Hamirpur, India

This 2-volume set is a useful reference guide for researchers, engineers and advanced students working in the area of design and modelling of VLSI and post-CMOS devices and their circuits. Wide ranging coverage includes low-voltage low-power VLSI design, through silicon via interconnects for 3D integration, modelling and simulation for post-CMOS device and circuit design, high-performance compound semiconductor devices and applications, process variability in FinFETs, and other novel and emerging technologies.

Vol 1: 2019 / 346pp / £120 / $155
Print PBCS073A / 978-1-83953-051-7
eBook PBCS073F / 978-1-83953-052-4

Vol 2: 2019 / 388pp / £120 / $155
Print PBCS073B / 978-1-83953-053-1
eBook PBCS073G / 978-1-83953-054-8

Set: 2019 / £190 / $250
Print PBCS073X / 978-1-83953-055-5

Materials, Circuits & Devices - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advanced Technologies for Next Generation Integrated Circuits	Srivastava & Mohanty (Eds)	£115.00	$150.00	978-1-78561-664-8	978-1-78561-665-5	PBCS049
Analysis and Design of CMOS Clocking Circuits For Low Phase Noise	Bae & Jeong	£115.00	$150.00	978-1-78561-801-7	978-1-78561-802-4	PBCS059
Cross-Layer Reliability of Computing Systems	Di Natale, Gizopoulos, Di Carlo, Bosio & Canal (Eds)	£115.00	$150.00	978-1-78561-797-3	978-1-78561-798-0	PBCS057
Emerging CMOS Capacitive Sensor for Biomedical Applications: A multidisciplinary approach	Ghafar-Zadeh	£115.00	$150.00	978-1-78561-915-1	978-1-78561-916-8	PBCS063
Frontiers in Hardware Security and Trust: Theory, design and practice	Chang & Cao (Eds)	£115.00	$150.00	978-1-78561-927-4	978-1-78561-928-1	PBCS066
Frontiers in Securing Hardware IP: Forensic detective control and obfuscation	Sengupta	£110.00	$145.00	978-1-83953-031-9	978-1-83953-032-6	PBCS067
Gyrators, Simulated Inductors and Related Immittances: Realizations and applications	Senani, Bhaskar & Singh	£130.00	$170.00	978-1-78561-670-9	978-1-78561-671-6	PBCS048
Handbook of Terahertz Optical Properties of Materials	Naftaly (Ed)	£120.00	$155.00	978-1-78561-533-7	978-1-78561-534-4	PBCS036
Hardware Architectures for Deep Learning	Daneshtalab & Modarressi (Eds)	£115.00	$145.00	978-1-78561-768-3	978-1-78561-769-0	PBCS055
Integrated Optics	Righini & Ferrari (Eds)	£140.00	$180.00	978-1-78561-781-2	978-1-78561-782-9	PBCS056
MEMS Resonator Filters	Patriker (Ed)	£125.00	$165.00	978-1-78561-896-3	978-1-78561-897-0	PBCS065
Modelling Methodologies in Analogue Integrated Circuit Design	Dündar & Yelten (Eds)	£125.00	$160.00	978-1-78561-695-2	978-1-78561-696-9	PBCS051
Phase-Locked Frequency Generation and Clocking: Architectures and circuits for wireless and wireline systems	Rhee (Ed)	£135.00	$175.00	978-1-78561-885-7	978-1-78561-886-4	PBCS064
Silicon Terahertz Plasmonics: Device design and applications	Liang, Zhang & Yu	£115.00	$150.00	978-1-83953-102-6	978-1-83953-103-3	PBCS074
Tensorial analysis of networks (TAN) modelling for PCB signal integrity and EMC analyses	Ravelo & Yu (Ed)	£125.00	$160.00	978-1-83953-049-4	978-1-83953-050-0	PBCS072

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Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advances in High-Power Fiber and Diode Laser Engineering	Divliansky (Ed)	£120.00	$155.00	978-1-78561-751-5	978-1-78561-752-2	PBCS054
Asynchronous Circuit Applications	Di & Smith (Eds)	£120.00	$155.00	978-1-78561-817-8	978-1-78561-818-5	PBCS061
Characterisation and Control of Defects in Semiconductors	Tuomisto (Ed)	£130.00	$170.00	978-1-78561-655-6	978-1-78561-656-3	PBCS045
Design of Terahertz CMOS Integrated Circuits for High-Speed Wireless Communication	Fujishima & Amakawa	£110.00	$145.00	978-1-78561-387-6	978-1-78561-388-3	PBCS035
Digitally Enhanced Mixed Signal Systems	Jabbour, Desgreys & Dallet (Eds)	£120.00	$155.00	978-1-78561-609-9	978-1-78561-610-5	PBCS040
Fibre Bragg Gratings in Harsh and Space Environments: Principles and applications	Aissa, Haddad, Kruzelecky & Jamroz	£110.00	$145.00	978-1-78561-980-9	978-1-78561-981-6	PBCS069
Functionality-Enhanced Devices: An alternative to Moore's Law	Gillardon (Ed)	£115.00	$150.00	978-1-78561-558-0	978-1-78561-559-7	PBCS039
High Frequency MOSFET Gate Drivers: Technologies and applications	Zhang & Liu	£100.00	$160.00	978-1-78561-365-4	978-1-78561-366-1	PBCS033
High Quality Liquid Crystal Displays and Smart Devices Volume 1: Development, display applications and components	Ishihara, Kobayashi and Ukai (Eds)	£120.00	$155.00	978-1-78561-925-0	978-1-78561-926-7	PBCS068A

Materials, Circuits & Devices - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
High Quality Liquid Crystal Displays and Smart Devices Volume 2: Surface alignment, new technologies and smart device applications	Ishihara, Kobayashi and Ukai (Eds)	£120.00	$155.00	978-1-78561-923-6	978-1-78561-924-3	PBCS068B
High Quality Liquid Crystal Displays and Smart Devices (2-volume set)	Ishihara, Kobayashi and Ukai (Eds)	£190.00	$250.00	978-1-78561-939-7	N/A	PBCS068X
High Speed Data Converters	Ali	£110.00	$175.00	978-1-84919-938-4	978-1-84919-939-1	PBCS026
IP Core Protection and Hardware-Assisted Security for Consumer Electronics	Sengupta & Mohanty	£135.00	$175.00	978-1-78561-799-7	978-1-78561-800-0	PBCS060
Magnetorheological Materials and their Applications	Choi & Li (Eds)	£125.00	$165.00	978-1-78561-770-6	978-1-78561-771-3	PBCS058
Nano-CMOS and Post-CMOS Electronics: Circuits and design	Mohanty & Srivastava (Eds)	£95.00	$150.00	978-1-84919-999-5	978-1-78561-000-4	PBCS030
Nano-CMOS and Post-CMOS Electronics: Devices and Modelling	Mohanty & Srivastava (Eds)	£95.00	$150.00	978-1-84919-997-1	978-1-84919-998-8	PBCS029
Nano-Scaled Semiconductor Devices: Physics, modelling, characterisation, and societal impact	Gutierrez (Ed)	£120.00	$190.00	978-1-84919-930-8	978-1-84919-931-5	PBCS027
Negative Group Delay Devices: From concepts to applications	Ravelo (Ed)	£115.00	$150.00	978-1-78561-640-2	978-1-78561-641-9	PBCS043
Optical MEMS for Chemical Analysis and Biomedicine	Jiang (Ed)	£100.00	$160.00	978-1-84919-897-4	978-1-84919-898-1	PBCS025
Oscillator Circuits: Frontiers in Design, Analysis and Applications	Nishio (Ed)	£110.00	$175.00	978-1-78561-057-8	978-1-78561-058-5	PBCS032
Radio Frequency and Microwave Power Amplifiers: Principles, device modeling and matching networks	Grebennikov (Ed)	£135.00	$175.00	978-1-83953-036-4	978-1-83953-037-1	PBCS071A
Radio Frequency and Microwave Power Amplifiers: Efficiency and linearity enhancement techniques	Grebennikov (Ed)	£130.00	$170.00	978-1-83953-038-8	978-1-83953-039-5	PBCS071B
Radio Frequency and Microwave Power Amplifiers (2-volume set)	Grebennikov (Ed)	£210.00	$275.00	978-1-83953-040-1	N/A	PBCS071X
RF and Microwave Module Level Design and Integration	Almalkawi	£120.00	$155.00	978-1-78561-359-3	978-1-78561-360-9	PBCS034
Self-Healing Materials: From fundamental concepts to advanced space and electronics applications, 2nd Edition	Aissa, Haddad & Jamroz	£110.00	$145.00	978-1-78561-992-2	978-1-78561-993-9	PBCS070
System Design with Memristor Technologies	Buckert & Swartzlander	£100.00	$160.00	978-1-78561-561-0	978-1-78561-562-7	PBCS038
Understandable Electric Circuits: Key concepts, 2nd edition	Wang	£120.00	$155.00	978-1-78561-697-6	978-1-78561-698-3	PBCS047
VLSI and Post-CMOS Electronics: Design, modelling and simulation	Dhiman & Chandel (Eds)	£120.00	$155.00	978-1-83953-051-7	978-1-83953-052-4	PBCS073A
VLSI and Post-CMOS Electronics: Materials, devices and interconnects	Dhiman & Chandel (Eds)	£120.00	$155.00	978-1-83953-053-1	978-1-83953-054-8	PBCS073B
VLSI and Post-CMOS Electronics (2-volume set)	Dhiman & Chandel (Eds)	£190.00	$250.00	978-1-83953-055-5	N/A	PBCS073X
VLSI Architectures for Future Video Coding	Martina (Ed)	£115.00	$145.00	978-1-78561-710-2	978-1-78561-711-9	PBCS053

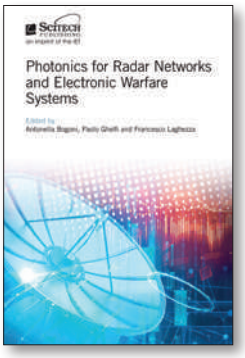
Biologically-Inspired Radar and Sonar: Lessons from nature

Editors: Alessio Balleri, Cranfield University, UK; Hugh Griffiths, University College London, UK; and Chris Baker, Aveillant, UK

Nature presents fascinating examples of active sensing, which is used in nature to carry out many different tasks such as navigation, collision avoidance and selection, identification and attack of prey. This book describes how these sophisticated natural sensing techniques can be applied to radar and sonar systems to improve their performance. With contributions from an international team of leading researchers, this is essential reading for radar and sonar practitioners in academia and research at governmental and industrial organisations.

2017 / 272pp / £100 / $160
Print **SBRA5140 / 978-1-61353-235-5**
eBook **SBRA514E / 978-1-61353-236-2**

Photonics for Radar Networks and Electronic Warfare Systems



Editors: Antonella Bogoni & Francesco Laghezza, National Inter-university Consortium for Telecommunications, Italy

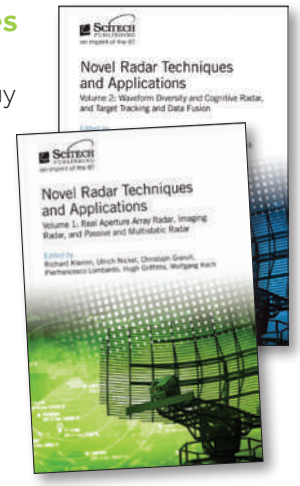
This is the first book to describe the potential for microwave photonics in radar and electronic warfare systems. It covers basic concepts and functions (RF transport in optical fibre, photonics-based RF signal generation/upconversion and analogue-to-digital conversion/downconversion, optical beam forming and optical RF filtering). It compares performance with conventional systems, describes their impact on digital signal processing, and explores integration issues. This book is essential reading for designers and researchers of radar and electronic warfare systems.

2019 / 248pp / £110 / $145
Print **SBRA5160 / 978-1-78561-376-0**
eBook **SBRA516E / 978-1-78561-377-7**

Novel Radar Techniques and Applications

Volume 1: Real Aperture Array Radar, Imaging Radar, and Passive and Multistatic Radar

Volume 2: Waveform Diversity and Cognitive Radar, and Target Tracking and Data Fusion



Editors: Richard Klemm, Fraunhofer FHR, Germany; Ulrich Nickel, Fraunhofer Institute for Communication, Information Processing and Ergonomics (FKIE), Germany; Christoph Gierull, Defence R&D Canada, Canada; Pierfrancesco Lombardo, DIET University of Rome 'La Sapienza', Italy ; Hugh Griffiths, University College London, UK; Wolfgang Koch, Fraunhofer FHR, Germany

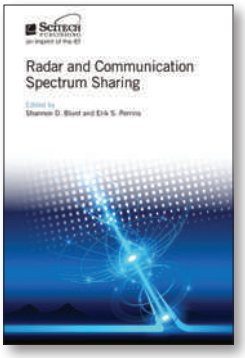
This 2-volume set presents the state-of-the-art in advanced radar, with emphasis on ongoing novel research and development and contributions from an international team of leading radar experts. Each section gives an overview of the latest research and perspectives of the future, and includes a number of chapters dedicated to specific techniques in conjunction with existing operational, experimental or conceptual applications. Volume 1 covers Real Aperture Array Radar, Imaging Radar, and Passive and Multistatic Radar; Volume 2 covers Waveform Diversity and Cognitive Radar, and Target Tracking and Data Fusion

Vol 1: 2017 / 952pp / £130 / $195
Print **SBRA512A / 978-1-61353-225-6**
eBook **SBRA512F / 978-1-61353-227-0**

Vol 2: 2017 / 552pp / £130 / $195
Print **SBRA512B / 978-1-61353-226-3**
eBook **SBRA512G / 978-1-61353-228-7**

Set: 2017 / £250 / $395
Print **SBRA512X / 978-1-61353-229-4**

Radar and Communication Spectrum Sharing

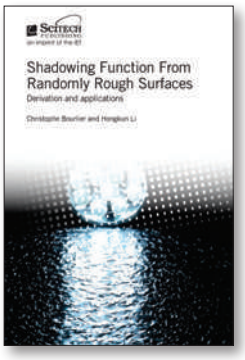


Editors: Shannon D. Blunt & Erik S. Perrins, University of Kansas, USA

This book addresses solutions to the growing conflict over the use of the radio-frequency spectrum by different systems such as radar and consumer use for wireless communications, with an emphasis on identifying the technology gaps for practical realization of spectrum sharing and the regulatory and measurement compliance aspects of this problem.

2018 / 864pp / £145 / $190
Print **SBRA5150 / 978-1-78561-357-9**
eBook **SBRA515E / 978-1-78561-358-6**

Shadowing Function from Randomly Rough Surfaces: Derivation and applications

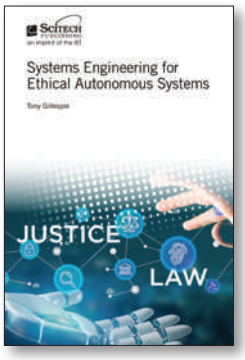


Authors: Christophe Bourlier & Hongkun Li, National Center for Scientific Research (CNRS), France & Ohio State University, USA

This title presents an overview of theory and recent advances concerning the shadowing function, an important element in the simulation and calculation of electromagnetic waves scattering at randomly rough surfaces. The authors address derivation of the shadowing function, helping researchers to understand the theoretical aspects of the problem, while applications of the shadowing function are discussed to show how it is applied to real problems. Ideal for graduate students and researchers working on high frequency scattering, infrared radiation, reflectivity and ray-tracing techniques from rough surfaces.

2019 / 240pp / £110 / $145
Print **SBRA5190 / 978-1-78561-535-1**
eBook **SBRA519E / 978-1-78561-536-8**

Systems Engineering for Ethical Autonomous Systems



Author: Tony Gillespie, University College London, UK

Written for researchers and students of systems modelling in academia, industry and the military/defence sector, this is the first book on the emerging topic of ethical engineering for autonomous systems. It presents proven system engineering techniques, showing how generic engineering requirements can be derived from ethical/legal considerations and then turned into systems requirements. The book then shows how these requirements can be used as a basis for system procurement, engineering design and system testing.

2019 / 512pp / £130 / $170
Print **SBRA5170 / 978-1-78561-372-2**
eBook **SBRA517E / 978-1-78561-373-9**

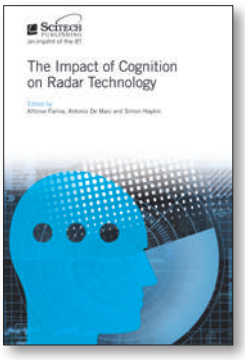
Tactical Persistent Surveillance Radar with Applications

Author: David Lynch, Jr., DL Sciences, Inc., Henderson, Nevada, USA

This book introduces technologists to the essential elements of persistent surveillance of tactical targets from both a hardware and software point of view, using simple Mathcad, Excel and Basic examples with real data. It is based on the type of surveillance done by drones like Scan Eagle, Predator, Reaper, Global Hawk, and manned aircraft like U-2, ASTOR, and JSTARS as well as spacecraft. The general topic is cellphone and datalink intercept, ground moving target radar, synthetic aperture radar, navigation, tracking, electronic scanning and cueing electro-optical sensors for activity based surveillance.

2018 / 496pp / £110 / $160
Print **SBRA5240 / 978-1-78561-650-1**
eBook **SBRA524E / 978-1-78561-651-8**

The Impact of Cognition on Radar Technology



Editors: Alfonso Farina, Antonio De Maio & Simon Haykin, SELEX-Sistemi Integrati, Rome, Italy

This book tackles the application of cognitive concepts to phased array radar systems for improved surveillance. It balances practical aspects with a rigorous mathematical approach and features many numerical study cases. The book also examines discoveries outside the radar community, such as breakthroughs in neuroscience. A list of common symbols, extensive cross-referencing and comprehensive references significantly enhance the book, making it invaluable as a reference for practitioners, academics and students in the area.

2017 / 312pp / £100 / $160
Print **SBRA5200 / 978-1-78561-580-1**
eBook **SBRA520E / 978-1-78561-581-8**

Radar, Sonar & Navigation - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Advanced Sparsity-Driven Models and Methods for Radar Applications	Li	£115.00	$150.00	978-1-83953-075-3	978-1-83953-076-0	SBRA535
Autonomous Underwater Vehicles: Design and practice	Ehlers (Ed)	£140.00	$185.00	978-1-78561-703-4	978-1-78561-704-1	SBRA525
Deep Neural Network Design for Radar Applications	Gurbuz (Ed)	£125.00	$160.00	978-1-78561-852-9	978-1-78561-853-6	SBRA529
Electronic Scanned Array Design	Williams	£120.00	$155.00	978-1-78561-929-8	978-1-78561-930-4	SBRA526
Maritime Surveillance with Synthetic Aperture Radar	Di Martino & Iodice (Eds)	£115.00	$150.00	978-1-78561-601-3	978-1-78561-602-0	SBRA521
Micro-Doppler Radar and Its Applications	Fioranelli, Griffiths, Ritchie & Balleri (Eds)	£120.00	$155.00	978-1-78561-933-5	978-1-78561-934-2	SBRA531
Multidimensional Radar Imaging	Martorella (Ed)	£130.00	$170.00	978-1-78561-807-9	978-1-78561-808-6	SBRA527
Radar, Waveform Design based on Optimization Theory	Cui, de Maio, Farina & Li (Eds)	£120.00	$155.00	978-1-78561-943-4	978-1-78561-944-1	SBRA533
Staring Radar	Oswald & Baker	£120.00	$155.00	978-1-78561-389-0	978-1-78561-390-6	SBRA518
Target Detection by Marine Radar, 2nd Edition	Wade	£130.00	$210.00	978-1-78561-860-4	978-1-78561-861-1	SBRA528
Theory and Practice of Modern Antenna Range Measurements, 2nd Expanded Edition, Volume 1	Gregson, Parini, McCormick, van Renseberg & Eibert	£125.00	$160.00	978-1-83953-126-2	978-1-83953-127-9	SBRA538A
Theory and Practice of Modern Antenna Range Measurements, 2nd Expanded Edition, Volume 2	Gregson, Parini, McCormick, van Renseberg & Eibert	£145.00	$190.00	978-1-83953-128-6	978-1-83953-129-3	SBRA538B
Theory and Practice of Modern Antenna Range Measurements, 2nd Expanded Edition, 2 volume set	Gregson, Parini, McCormick, van Renseberg & Eibert	£215.00	$280.00	978-1-83953-130-9	N/A	SBRA538X
Ultra-Wideband Surveillance Radar	Davis	£120.00	$155.00	978-1-83953-077-7	978-1-83953-078-4	SBRA534

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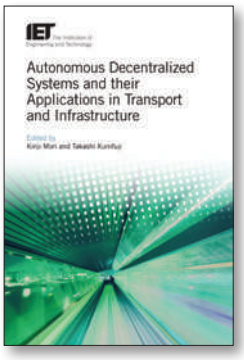
Radar, Sonar & Navigation - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Biologically-Inspired Radar and Sonar: Lessons from nature	Balleri, Griffiths & Baker (Eds)	£100.00	$160.00	978-1-61353-235-5	978-1-61353-236-2	SBRA514
Novel Radar Techniques and Applications: Volume 1: Real Aperture Array Radar, Imaging Radar, and Passive and Multistatic Radar	Klemm, Nickel, Gierull, Lombardo, Griffiths & Koch (Eds)	£130.00	$195.00	978-1-61353-225-6	978-1-61353-227-0	SBRA512A
Novel Radar Techniques and Applications: Volume 2: Waveform Diversity and Cognitive Radar, and Target Tracking and Data Fusion	Klemm, Nickel, Gierull, Lombardo, Griffiths & Koch (Eds)	£130.00	$195.00	978-1-61353-226-3	978-1-61353-228-7	SBRA512B
Novel Radar Techniques and Applications (2-volume set)	Klemm, Nickel, Gierull, Lombardo, Griffiths & Koch (Eds)	£250.00	$395.00	978-1-61353-229-4	N/A	SBRA512X
Photonics for Radar Networks and Electronic Warfare Systems	Bogoni. Laghezza & Ghelfi (Eds)	£110.00	$145.00	978-1-78561-376-0	978-1-78561-377-7	SBRA516
Radar and Communication Spectrum Sharing	Blunt & Perrins (Ed)	£145.00	$190.00	978-1-78561-357-9	978-1-78561-358-6	SBRA515
Shadowing Function from Randomly Rough Surfaces: Derivation and applications	Bourlier & Li	£110.00	$145.00	978-1-78561-535-1	978-1-78561-536-8	SBRA519
Systems Engineering for Ethical Autonomous Systems	Gillespie	£130.00	$170.00	978-1-78561-372-2	978-1-78561-373-9	SBRA517
Tactical Persistent Surveillance Radar with Applications	Lynch	£110.00	$160.00	978-1-78561-650-1	978-1-78561-651-8	SBRA524
The Impact of Cognition on Radar Technology	Farina, De Maio & Haykin (Eds)	£100.00	$160.00	978-1-78561-580-1	978-1-78561-581-8	SBRA520

Transportation - Highlights

Autonomous Decentralized Systems and their Applications in Transport and Infrastructure



Editors: Kinji Mori & Takashi Kunifuji, Waseda University, Japan & East Japan Railway Company, Japan

This work describes the concept, architecture and technologies of Autonomous Decentralized Systems (ADS) and their applications in transport and other systems, particularly intelligent railway transport. ADS is explained first using the example of the Japanese railway transport system; applications in other countries follow. The goal is to describe the technologies, applications and businesses on the basis of a consistent concept for achieving intelligent transport. Other ADS based technologies, such as for air traffic and robotic transport are also covered.

2018 / 360pp / £120 / $155
Print PBTR0090 / 978-1-78561-281-7
eBook PBTR009E / 978-1-78561-282-4

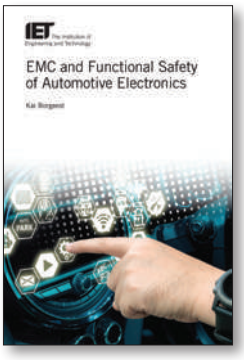
Cooperative Intelligent Transport Systems: Towards high-level automated driving

Editor: Meng Lu, Dynniq, The Netherlands

Intelligent Transport Systems, particularly for automated driving, have been developed to maturity and are available for deployment. However, the selection of particular technologies will substantially influence their further development towards connected, cooperative and automated road transport. This work covers most recent research and results of ICT-based ITS development and deployment of connected, cooperative and automated driving for researchers, and industry experts.

2019 / 400pp / £125 / $160
Print PBTR0250 / 978-183953-012-8
eBook PBTR025E / 978-183953-013-5

EMC and Functional Safety of Automotive Electronics

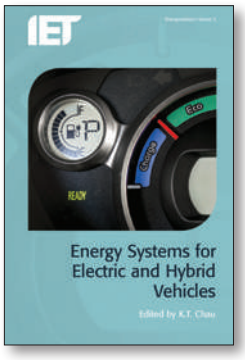


Author: Kai Borgeest, Aschaffenburg University of Applied Sciences, Germany

This systematic treatment of electromagnetic compatibility (EMC) for the automotive sector introduces automotive experts to EMC and EMC experts to automotive electronics. The book enables readers to avoid expensive EMC problems, to test for EMC compliance of cars and their components, and to fix existing EMC issues. It also deals with the legal frameworks around the topic. In addition, the book explicitly covers electric vehicle technology and infrastructure. Ideal for researchers, advanced students and engineers in automotive electronics.

2018 / 264pp / £110 / $145
Print PBTR0120 / 978-1-78561-408-8
eBook PBTR012E / 978-1-78561-409-5

Energy Systems for Electric and Hybrid Vehicles

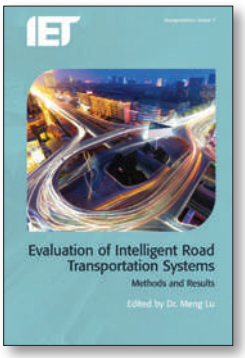


Editor: K. T. Chau, The University of Hong Kong

Electric and hybrid vehicles have been globally identified to be the most environmentally friendly road transportation. This book provides comprehensive coverage of energy systems for electric and hybrid vehicles with a focus on the three main energy system technologies – energy sources, battery charging and vehicle-to-grid systems.

2016 / 520pp / £110 / $175
Print PBTR0020 / 978-1-78561-008-0
eBook PBTR002E / 978-1-78561-009-7

Evaluation of Intelligent Road Transport Systems: Methods and results

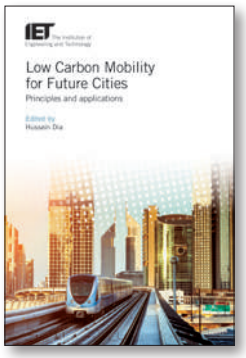


Editor: Meng Lu, Dynniq, The Netherlands

Intelligent Transport Systems (ITS) use information and communications technologies (ICT) to deliver transport improvements instead of extending physical infrastructure, thereby saving money and reducing environmental impact. This book provides an overview of ICT-based intelligent road transport systems with an emphasis on evaluation methods and recent evaluation results of ITS development and deployment.

2016 / 456pp / £105 / $170
Print PBTR0070 / 978-1-78561-172-8
eBook PBTR007E / 978-1-78561-173-5

Low Carbon Mobility for Future Cities: Principles and applications

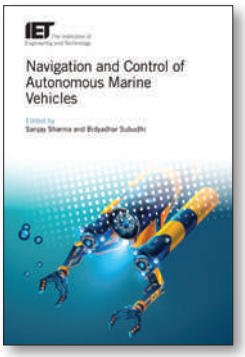


Editor: Hussein Dia, Swinburne University of Technology, Australia

Taking the global view of the interactions between land use and transport this book brings together leading experts in the areas of urban planning, transport planning and strategy, traffic management and transport technology to present a cohesive work on the policy principles and practical applications to drive urban mobility services in tomorrow's smart cities. Containing practical policy instruments and proven use cases, this book combines academic rigor with practical tools to benefit practitioners and city leaders.

2017 / 376pp / £105 / $170
Print PBTR0060 / 978-1-78561-197-1
eBook PBTR006E / 978-1-78561-198-8

Navigation and Control of Autonomous Marine Vehicles

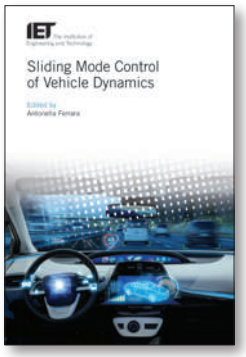


Editors: Sanjay Sharma & Bidyadhar Subudhi, Plymouth University UK & National Institute of Technology Rourkela, India

Covers the current state of research on the navigation, modelling and control of marine autonomous vehicles. The book examines all related aspects, including collision avoidance, communication, and applications. Specific topics include: modelling and control of autonomous vehicles; advanced geophysical based underwater navigation; collision avoidance of maritime vessels; autonomous underwater vehicles for marine archaeology; system modelling, identification and experimental evaluation of an autonomous surface craft; formation control of autonomous marine vehicles; sliding mode control for path planning guidance of marine vehicles; and more.

2019 / 352pp / £120 / $155
Print PBTR0110 / 978-1-78561-338-8
eBook PBTR011E / 978-1-78561-339-5

Sliding Mode Control of Vehicle Dynamics



Editor: Antonella Ferrara, University of Pavia, Italy

This book is a comprehensive work on vehicle dynamics control through sliding mode control. This edited volume covers the control of longitudinal, lateral and vertical dynamics of four-wheeled vehicles, both of the conventional (i.e. combustion driven) type as well as fully-electric. In addition, one chapter is devoted to motorcycles, and one to the roll-over control in heavy vehicles. The topic is important not only for general safety of vehicular traffic, but also for future automated driving. This book is a must-read for both researchers and industry engineers in this field.

2017 / 312pp / £100 / $160
Print PBTR0050 / 978-1-78561-209-1
eBook PBTR005E / 978-1-78561-210-7

Transportation - Forthcoming

to be published in 2020 and 2021

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Automated Driving System Design: Dichotomies and tradeoffs	Lamm	£115.00	$150.00	978-1-83953-033-3	978-1-83953-034-0	PBTR027
Behavioral Modelling and Simulation of Bicycle Traffic	Huang & Wu	£115.00	$150.00	978-1-78561-951-9	978-1-78561-952-6	PBTR023
Collection and Delivery of Traffic and Travel Information	Burton & Stevens (Eds)	£115.00	$150.00	978-1-78561-772-0	978-1-78561-773-7	PBTR018
Computational Traffic Flow Modelling and Control	Kotsialos	£125.00	$160.00	978-1-78561-166-7	978-1-78561-167-4	PBTR003
Cybersecurity in Transport Systems	Hawley (Ed)	£120.00	$155.00	978-1-78561-668-6	978-1-78561-669-3	PBTR015
Human Centered Design of Automated Driving Systems	Akamatsu, Kitazaki & Boer (Eds)	£115.00	$150.00	978-1-78561-677-8	978-1-78561-678-5	PBTR014
Hybrid and All-Electric Aircraft	Turton, Cutcher & Ren (Eds)	£120.00	$155.00	978-1-83953-019-7	978-1-83953-020-3	PBTR021
ICT for Electric Vehicle Integration with the Smart Grid	Kishor & Fraile-Ardanuy (Eds)	£130.00	$170.00	978-1-78561-762-1	978-1-78561-763-8	PBTR016
Intelligent Infrastructure for Traffic Monitoring Sensing	Ozaki (Ed)	£110.00	$145.00	978-1-78561-774-4	978-1-78561-775-1	PBTR017
Maritime ITS and ITS Solutions in Port Logistics	Gupta & Farini (Eds)	£120.00	$155.00	978-1-83953-086-9	978-1-83953-087-6	PBTR030
Pedestrian Dynamics: Data, informatics, models, and simulation	Farooq	£110.00	$145.00	978-1-78561-839-0	978-1-78561-840-6	PBTR019
Shared Mobility and Automated Vehicles	Khan & Shaheen (Eds)	£120.00	$155.00	978-1-78561-862-8	978-1-78561-863-5	PBTR020
Simulators for Evaluation of Human-Machine Interfaces in Assisted and Autonomous Driving	Ito & Hirose (Eds)	£110.00	$145.00	978-1-83953-008-1	978-1-83953-009-8	PBTR024
Traffic Information and Control	Li & He (Eds)	£115.00	$150.00	978-1-83953-025-8	978-1-83953-026-5	PBTR026
Traffic Safety Data: Data sources, observations and safety measures	Agerholm	£115.00	$150.00	978-1-83953-045-6	978-1-83953-046-3	PBTR028
Travel Technologies for Elderly and Disabled People	Edwards & Matthews (Eds)	£110.00	$145.00	978-1-83953-104-0	978-1-83953-105-7	PBTR031
V2X Communications for Autonomous Transportation: A Comprehensive Survey of Driving Use-cases	Abdulla	£125.00	$160.00	978-1-78561-953-3	978-1-78561-954-0	PBTR022

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Transportation - Recent

Title	Author(s)/Editor(s)	Price (£)	Price ($)	ISBN	eISBN	Product code
Autonomous Decentralized Systems and their Applications in Transport and Infrastructure	Mori & Kunifuji (Eds)	£120.00	$155.00	978-1-78561-281-7	978-1-78561-282-4	PBTR009
Cooperative Intelligent Transport Systems: Towards high-level automated driving	Lu (Ed)	£125.00	$160.00	978-183953-012-8	978-183953-013-5	PBTR025
EMC and Functional Safety of Automotive Electronics	Borgeest	£110.00	$145.00	978-1-78561-408-8	978-1-78561-409-5	PBTR012
Energy Systems for Electric and Hybrid Vehicles	Chau (Ed)	£110	$175.00	978-1-78561-008-0	978-1-78561-009-7	PBTR002
Evaluation of Intelligent Road Transport Systems: Methods and results	Lu (Ed)	£105.00	$170.00	978-1-78561-172-8	978-1-78561-173-5	PBTR007
Low Carbon Mobility for Future Cities: Principles and applications	Dia (Ed)	£105.00	$170.00	978-1-78561-197-1	978-1-78561-198-8	PBTR006
Navigation and Control of Autonomous Marine Vehicles	Sharma & Subudhi (Eds)	£120.00	$155.00	978-1-78561-338-8	978-1-78561-339-5	PBTR011
Road Pricing: Technologies, economics and acceptability	Walker (Ed)	£130.00	$210.00	978-1-78561-205-3	978-1-78561-206-0	PBTR008
Sliding Mode Control of Vehicle Dynamics	Ferrara (Ed)	£100.00	$160.00	978-1-78561-209-1	978-1-78561-210-7	PBTR005

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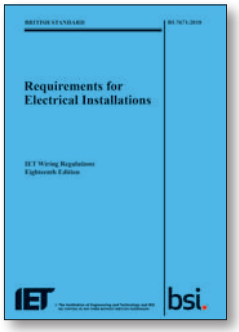
Electrical Regulations

BS 7671 (the IET Wiring Regulations) sets the standard for electrical installations in the UK and many other countries. The IET co-publishes BS 7671 with the British Standards Institution (BSI) and is the authority on electrical installation.

Amendment 1 to BS 7671:2018 is expected in early 2020. This will be a free-to-view stand-alone update available at theiet.org/updates. All titles below will remain up-to-date with BS 7671:2018 and will not be updated at this time.

eBook versions of BS 7671 and IET guidance are available on subscription via VitalSource Bookshelf. Please contact **digitalwiringregs@theiet.org** for more information on packages and ordering.

Requirements for Electrical Installations: IET Wiring Regulations

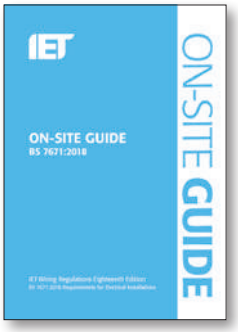


18th Edition
BS 7671:2018

- the 18th Edition is a major update to this title, with changes included throughout the book
- vital for all involved in the electrical industry, including designers, installers, and those involved in testing and inspection of electrical installations

2018 / 560pp / £95 / $120
Print **PWR1800B / 978-1-78561-170-4**

On-Site Guide to BS 7671:2018



- an essential guide to BS 7671
- incorporates the extensive changes in BS 7671:2018, making this a vital guide for keeping up to date
- enables the competent electrician to deal with installations (up to 100 A, 3-phase) providing essential information in a convenient, easy-to-use format

2018 / 220pp / £30 / $38
Print **PWGO180B / 978-1-78561-442-2**
VS eBook **PWGO180V / 978-1-78561-444-6**

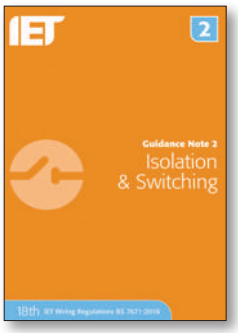
Guidance Note 1: Selection & Erection

8th Edition

- a fundamental guide for specifiers, installers and those inspecting and testing installations
- contains clear guidance on how to apply the relevant sections of BS 7671
- fully updated to BS 7671:2018

2018 / 244pp / £38 / $48
Print **PWG1180B / 978-1-78561-445-3**
VS eBook **PWG1180V / 978-1-78561-447-7**

Guidance Note 2: Isolation & Switching



8th Edition

- provides clear guidance on what can be a confusing aspect of BS 7671
- ideal for those working in specification, testing and inspection and for consulting engineers, as well as electrical installers
- fully updated to BS 7671:2018

2018 / 96pp / £32 / $40
Print **PWG2180B / 978-1-78561-449-1**
VS eBook **PWG2180V / 978-1-78561-451-4**

Guidance Note 3: Inspection & Testing

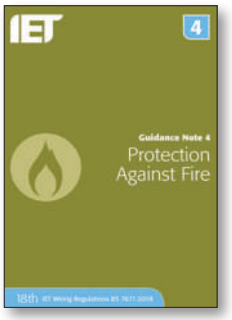
8th Edition

- a fundamental guidance book for all those involved with the testing and inspection of electrical installations
- also contains essential guidance for those studying for inspection and testing qualifications
- fully updated to BS 7671:2018

2018 / 160pp / £35 / $44
Print **PWG3180B / 978-1-78561-452-1**
VS eBook **PWG3180V / 978-1-78561-454-5**

Guidance Note 4: Protection Against Fire

8th Edition

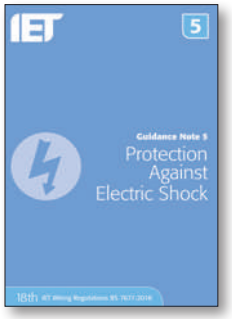


- a vital guide to an important safety aspect of working with electricity
- aimed at everyone involved with fire safety in electrical installations, including consulting engineers, electrical installers, inspectors and technicians
- fully updated to BS 7671:2018

2018 / 120pp / £32 / $40
Print **PWG4180B / 978-1-78561-455-2**
VS eBook **PWG4180V / 978-1-78561-457-6**

Guidance Note 5: Protection Against Electric Shock

8th Edition

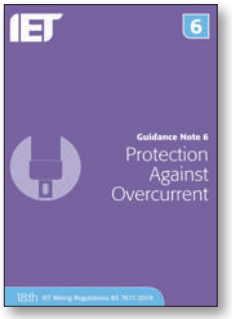


- a core element of safety for specifiers, designers, contractors and inspectors
- provides clear guidance on how to apply the safety requirements of BS 7671 concerning electric shock
- fully updated to BS 7671:2018

2018 / 152pp / £32 / $40
Print **PWG5180B / 978-1-78561-458-3**
VS eBook **PWG5180V / 978-1-78561-460-6**

Guidance Note 6: Protection Against Overcurrent

8th Edition

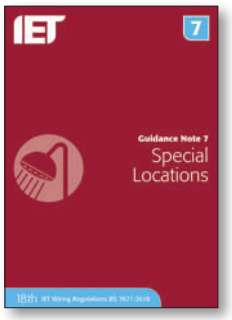


- a key guide to this important area of BS 7671
- for all involved with specifying, designing, installing or verifying electrical installations
- fully updated to BS 7671:2018

2018 / 124pp / £32 / $40
Print **PWG6180B / 978-1-78561-461-3**
VS eBook **PWG6180V / 978-1-78561-463-7**

Guidance Note 7: Special Locations

6th Edition

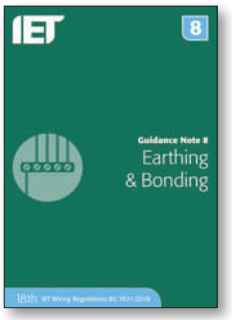


- provides a comprehensive guide to the various special locations and installations for which additional measures are required to comply with BS 7671
- designed for anyone working in special locations where guidance may vary, including consulting engineers, electricians, electrical installers, inspectors and technicians
- fully updated to BS 7671:2018

2018 / 208pp / £32 / $40
Print **PWG7180B / 978-1-78561-464-4**
VS eBook **PWG7180V / 978-1-78561-466-8**

Guidance Note 8: Earthing and Bonding

4th Edition



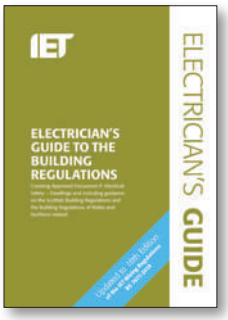
- includes information from BS 7430 Code of Practice for Earthing
- key guidance for all involved with specifying, designing, installing or verifying electrical installations
- fully updated to BS 7671:2018

2018 / 208pp / £32 / $40
Print **PWG8180B / 978-1-78561-413-2**
VS eBook **PWG8180V / 978-1-78561-467-5**

Electrical Regulations

Electrician's Guide to the Building Regulations

5th Edition

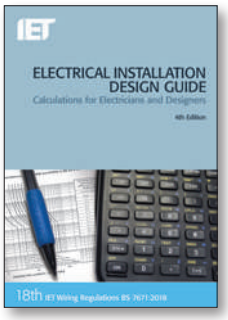


- includes the latest guidance on third-party certification schemes
- covers relevant parts of the Building Regulations, including Fire Safety, Ventilation and Conservation of Energy
- fully updated to BS 7671:2018

2018 / 284pp / £27 / $34
Print **PWGP180B / 978-1-78561-468-2**
VS eBook **PWGP180V / 978-1-78561-470-5**

Electrical Installation Design Guide

4th Edition



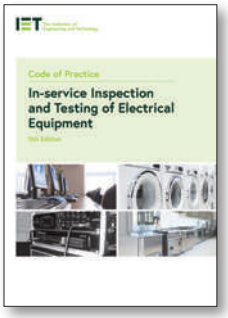
- provides step-by-step guidance on the design of electrical installations
- useful for apprentices and trainees carrying out the calculations necessary for a basic installation
- fully updated to BS 7671:2018

2018 / 224pp / £40 / $50
Print **PWGC180B / 978-1-78561-471-2**
VS eBook **PWGC180V / 978-1-78561-473-6**

NEW

Code of Practice for In-service Inspection and Testing of Electrical Equipment

5th Edition



- Promotes a risk-based approach to assessing the safety of electrical equipment and appliances
- Will assist duty-holders and all those responsible for electrical equipment and testers of the electrical equipment to determine whether the equipment is fit for continued service
- Will help to achieve conformity with the relevant parts of the Electricity at Work Regulations and will assist in preparation for C&G 2377

2020 / 106pp / £60 / $99
Print **PWR02350 / 978-1-78561-966-3**
VS eBook **PWR0235V / 978-1-78561-968-7**

NEW

Guide to Cables and Cable Management

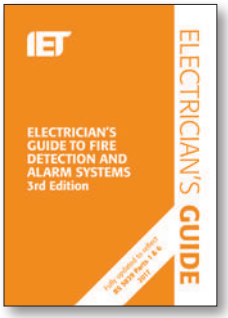
- Comprehensive guide for all electrical contractors and designers selecting and installing cables
- Provides clear information on the classes, sizes and types of cable, detailing appropriate and common applications and information on fire performance, accreditation and cable marking and IP ratings
- Also provides a clear understanding of the complex regulatory provisions in this area

2019 / 200pp / £45 / $72
Print **PWCC190B / 978-1-83953-017-3**
VS eBook **PWCC190V / 978-1-83953-018-0**

NEW

Electrician's Guide to Fire Detection and Alarm Systems

3rd Edition

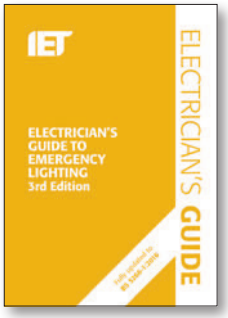


- advice on managing the requirements of both BS 7671 and BS 5839 for electrical installations
- ideal guide for those involved in the design and installation of fire detection systems as part of an electrical installation
- fully updated to the latest versions of BS 5839-1 and BS 5839-6

2020 / 160pp / £29 / $35
Print **PWR25130 / 978-1-78561-674-7**
VS eBook **PWR2513V / 978-1-78561-676-1**

Electrician's Guide to Emergency Lighting

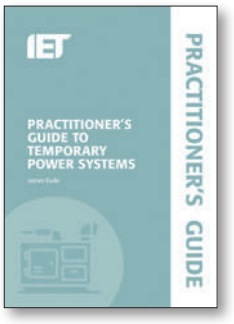
3rd Edition



- provides guidance on how to manage the requirements of both BS 7671 and BS 5266
- for designers and installers working on electrical installations involving emergency lighting
- fully updated to BS 5266-1:2016

2019 / 110pp / £27 / $34
Print **PWR25020 / 978-1-78561-613-6**
VS eBook **PWR2502V / 978-1-78561-615-0**

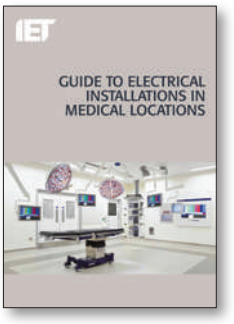
Practitioner's Guide to Temporary Power Systems



- accessible, concise and relevant information pertinent to the electrical safety of events for those working under pressure and to tight timescales
- the guide assists the reader in complying with BS 7671 and BS 7909, and in turn the Electricity at Work Regulations 1989; Construction, Design and Management; and Management of Health and Safety at Work Regulations 1999
- perfect for self-employed technicians, and employers such as broadcast or rental organisations

2019 / 200pp / £29 / $35
Print **PWTG1800 / 978-1-78561-432-3**
VS eBook **PWTG180V / 978-1-78561-434-7**

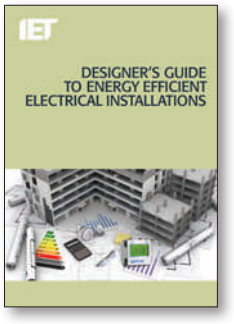
Guide to Electrical Installations in Medical Locations



- for designers, installers and maintainers of electrical installations in medical locations
- definitive guidance on earthing and bonding arrangements in medical locations

2017 / 180pp / £45 / $$72
Print **PWR11711 / 978-1-84919-767-0**
VS eBook **PWR1171V / 978-1-78561-661-7**

Designer's Guide to Energy Efficient Electrical Installations



- explains the areas incorporated into Appendix 17 (Energy Efficiency) of BS 7671:2018
- prepares users for meeting the new challenges and
- opportunities presented by Energy Efficiency
- explains the responsibilities of designers and clients in ensuring an energy efficient electrical design

2016 / 72pp / £30 / $45.34
Print **PWGE173B / 978-1-78561-181-0**
VS eBook **PWGE173V / 978-1-78561-183-4**

Further titles due to publish 2020:

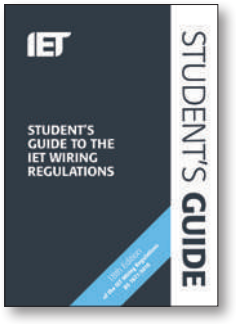
Guide to Maximum Demand and Diversity

Guide to Electrical Testing

STUDENT GUIDES

Student's Guide to the IET Wiring Regulations

2nd Edition

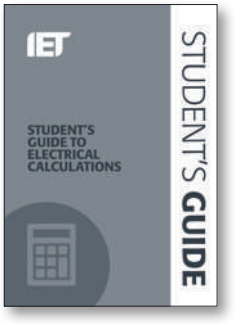


- integrates with current qualifications being delivered
- using diagrams and examples, provides students with guidance to navigate their way through the information available in BS 7671 while studying electrical courses
- provides the information that students will need throughout their studies and into their careers, including information about the various Acts and Regulations that may have implications on electrical installations

2018 / 280pp / £20 / $25
Wiro-bound **PWGS180B / 978-1-78561-474-3**
VS eBook **PWGS180V / 978-1-78561-476-7**

NEW

Student's Guide to Electrical Calculations



- provides fundamental guidance on the importance of carrying out accurate electrical calculations when designing and testing electrical installations
- easy to understand step-by-step diagrams and instructions to improve knowledge and understanding of calculations that form an integral part of level 2 and 3 electrical qualifications
- provides essential information for anyone working in the electrical industry, from apprentice to designer

2020 / 200pp / £15 / $22.67
Print **PWSC173B / 978-1-78561-244-2**
VS eBook **PWSC173V / 978-1-78561-738-6**

Electrical Regulations

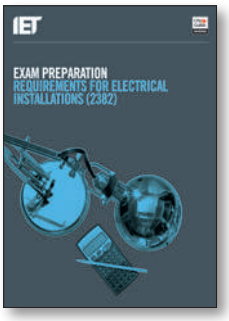
ENDORSED BY City & Guilds

The IET works with City & Guilds to provide expert exam preparation materials to complement key electrical courses. All of the below publications have been written by the IET and approved by City & Guilds to help learners prepare for exams.

Exam Preparation

Requirements for Electrical Installations (2382)

- the 2381 qualification ensures learners are up to date with the latest BS 7671 requirements
- this course is updated to BS 7671:2018
- includes practice examinations with fully worked and 'model' answers

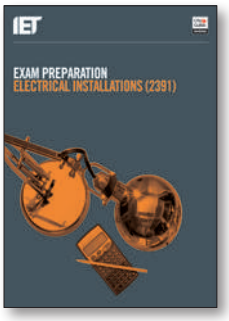


2019 / 130pp / £20 / $28
Print **PWR5140B / 978-1-78561-575-7**

Exam Preparation

Electrical Installations (2391)

- the 2391 qualification is for the inspection and testing of electrical installations
- helps students prepare for examinations
- includes practice examinations with fully worked and 'model' answers

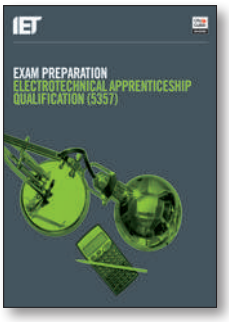


2018 / 130pp / £20 / $28
Print **PWR5110B / 978-1-78561-569-6**

Exam Preparation

Electrotechnical Apprenticeship Qualification (5357)

- the 5357 qualification is for apprentices wishing to commence a career in the electrotechnical industry
- this book helps students prepare for examinations
- includes practice examinations with fully worked and 'model' answers



2018 / 198pp / £20 / $28
Print **PWR5100B / 978-1-78561-567-2**

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theiet.org/18th-course

ENDORSED BY City & Guilds

Model Form of General Conditions of Contract

Model Form of Contract for the design, supply and installation of electrical, electronic and mechanical plant.

The IET's Model Form of Contract (more commonly known as MF/1) is a key industry template for the supply and installation of electrical, electronic, or mechanical plant.

Used by the engineering community for over 100 years, this highly regarded and well-developed form can be customised for a specific purpose and has been adapted to be applicable internationally.

This standard form of contract is recommended for use by contracts officers in private and public sector organisations, mechanical and electrical engineers, facilities managers, lawyers and in-house legal representatives.

Model Form of Contract

For the design, supply and installation of electrical, electronic and mechanical plant, MF/1 (Revision 6)

- accommodates the views of purchasers, engineers and the manufacturing industry, resulting in a fair balance between contractor and purchaser
- provides flexibility for the parties by providing 'Special Conditions' for particular requirements
- reflects accepted best practice and standards such as ICC terms

2014 / 96pp / £70 / $116
Print **PMPA1080 / 978-1-84919-804-2**

Commentary to MF/1 Revision 6

- this updated commentary helps users work with this 100-page Model Form of Contract in practical situations
- helps to interpret the clauses and the various schedules, explaining why they form part of the contract and indicating where they may be of particular value to those relying on the contract
- contains expanded coverage on parts of the contract likely to be most controversial and most likely to be an area of dispute

2017 / 48pp / £48 / $68
Print **PMPA108C / 978-1-78561-425-5**

Package of MF/1 (Revision 6) and Commentary to MF/1 (Revision 6)

PMPA108V / 978-1-78561-776-8 / £95

There are four primary publications within the IET/IMechE's Model Forms of Electromechanical Contract series. Please visit **theiet.org/model-forms** for details.

INTERACTIVE PDF VERSION

This downloadable version allows you to download and keep the PDF to use for multiple contracts, saving the cost of downloading a contract each time you need one. The document can be completed on screen, you can select pre-filled options and it is easy to print and circulate.

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ADDITIONAL MODEL FORMS TITLES

Title	Price (£)	Price ($)	ISBN	Product Code
MF/1 (Revision 6) PDF version	420	N/A	978-1-78561-022-6	PMPA108D
MF/1 (Revision 6) eBook version	70	116	978-1-84919-805-9	PMPA108E
MF/2 (Revision 1) Model Form of General Conditions of Contract	60	96	978-0-85296-858-1	PM0TR009
Commentary on MF/2 (Revision 1)	45	72	978-0-85296-758-4	PMPA1020
MF/3 (Revision 1) Model Form of General Conditions of Contract	35	56	978-0-85296-202-2	PMPA1040

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IET Standards works with industry-leading bodies and experts to achieve consensus on good practice in both emerging and established fields of engineering and technology. The end results form a range of Codes of Practice and guidance materials for professional engineers and technicians.

eBook versions of many of these titles are available via VitalSource Bookshelf.
Please contact digitalwiringregs@theiet.org for more information.

See the IET Academy e-learning platform for courses based on our standards, including topics on:

- Electric Vehicle Charging Installation
- LED Lighting
- Smart Homes
- Electrical Energy Storage Systems
- Electrical Safety Management

theiet.org/academy

NEW

Code of Practice for Electric Vehicle Charging Equipment Installation

4th Edition

- authoritative guide to all installations of electric vehicle charging equipment
- updated in line with recent changes in BS 7671 (IET Wiring Regulations)
- updated to reflect some major deleopments in this area including vehicle to grid, smart integration and inductive charging

2020 / 160pp / £75 / $124
Print TBC / TBC
VS eBook TBC /TBC

NEW

Code of Practice for Electrical Energy Storage Systems

2nd Edition

- details technical safety, operational, performance and engineering considerations
- provides additional and clearer guidance on a variety of aspects of the specification, design, installation and maintenance of electrical energy storage systems
- provides confidence for safe and effective implementation of electrical energy storage systems

2020 / 148 / £65 / $107
Print PSEE002P / 978-1-83953-041-8
VS eBook PSEE002E / 978-1-83953-042-5

NEW

Code of Practice for the Application of LED Lighting Systems

2nd Edition

- continuing to provide confidence to users as a minimum standard for LED lighting systems installation
- serves as a useful reference on the application of LED lighting systems
- online technical specification and procurement and business case guidance available free of charge

2020 / 130pp / £65 / $107
Print PSLS002P / 978-1-83953-084-5
VS eBook PSLS002V / 978-1-83953-085-2

NEW

Guide to Data Centre Power Systems

- a unique and comprehensive review of power systems that can be applied to all types of data centres
- impartial independent guidance free from commercial agendas
- a go-to guide for all those involved in the specification, design, commissioning, operation and maintenance of data centre power systems

2020 / 150pp / £65 / $107
Print PSDA101P / 978-1-78561-828-4
VS eBook PSDA101V / 978-1-78561-893-2

NEW

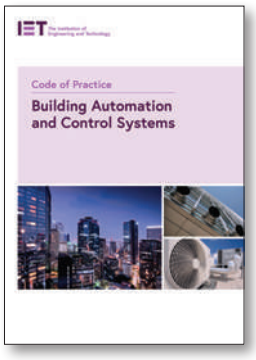
Guide to Smart Homes for Electrical Installers

- clarifies the implementation of smart home solutions and provides good-practice guidance in line with current regulations
- provides content developed by a committee of experts ensuring industry-robust, trusted information
- focuses on progressive technology solutions, providing a practical basis for the high-level work taking place in this industry

2020 / 100pp / £50 / $83
Print **PSSH101P / 978-1-78561-654-9**
VS eBook **PSSH101V / 978-1-78561-894-9**

NEW

Code of Practice for Building Automation and Control Systems

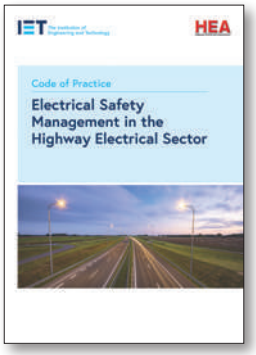


- provides comprehensive advice on specifying and implementing building automation and control systems
- also shows how to improve an installation's energy performance and the integration levels of multiple building services systems using a thorough review of BACS in existing properties
- ideal for electricians, energy managers, electrical contractors, consulting engineers, facilities management engineers and controls engineers

2019 / 90pp / £70 / $116
Print **PSBC001P / 978-1-78561-563-4**
VS eBook **PSBC001V / 978-1-78561-564-1**

NEW

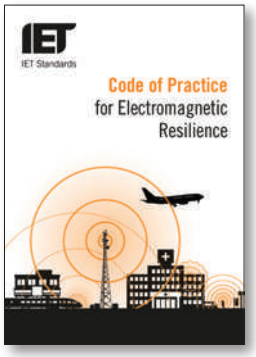
Code of Practice for Electrical Safety Management in the Highway Electrical Sector



- provides information and guidance on managing risks associated with the highway electrical sector
- provides a consistent good practice guide for designers and other practitioners within the sector
- works alongside the IET's Code of Practice for Electrical Safety Management's self-assessment checklist to audit and assess areas for improvement

2019 / 162pp / £60 / $99
Print **PSES201P / 978-1-78561-811-6**
VS eBook **PSES201V / 978-1-78561-812-3**

Code of Practice for Electromagnetic Resilience

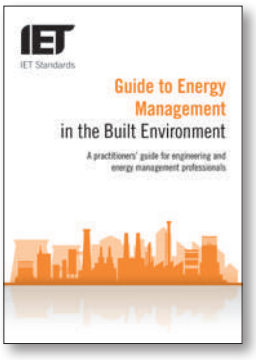


- addresses the planning and risk management of EMC (electromagnetic compatibility) and describes a recommended process for EMC for functional safety
- it specifically covers the measures and techniques that can address the interfering effects of EM disturbances that a system could experience over its lifecycle
- useful for functional safety engineering project managers, practitioners and assessors of functional safety design engineering

2017 / 120pp / £60 / $99
Print **PSER001P / 978-1-78516-324-1**
VS eBook **PSER001V / 978-1-78561-480-4**

IET Standards

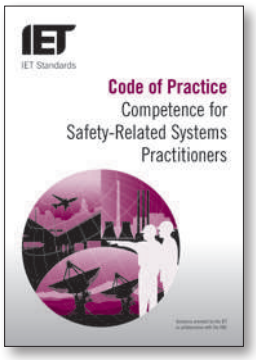
Guide to Energy Management in the Built Environment



- provides a good-practice, structured approach to implementing energy management system activities
- covers legislation requirements, policy, understanding energy use in your operation, strategies and planning for monitoring and identifying improvements, reviewing and solutions
- relevant to energy, facilities, building and environment managers, project managers and engineers and associated building operation and support engineers and technicians

2017 / 152pp / £65 / $107
Print PSEM001P / 978-1-78561-112-4
VS eBook PSEM001E / 978-1-78561-431-6

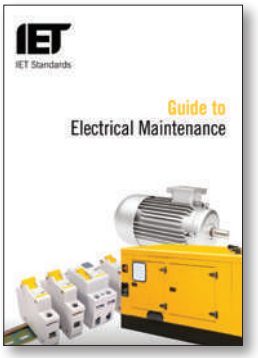
Code of Practice Competence for Safety-Related Systems Practitioners



- designed to help companies assess and maintain the competence of their engineering staff
- sets out the competencies expected and evidence required to prove competence in specific tasks and helps organisations create schemes for monitoring and measuring the competencies of employees
- for all those responsible for safety and competency in any organisation

2016 / 120pp / £60 / $99
Print PSAC001P / 978-1-78561-111-7
VS eBook PSAC001V / 978-78591-412-5

Guide to Electrical Maintenance



- provides guidance on carrying out maintenance activities and using good practice maintenance techniques
- draws together key guidance from other IET inspection, safety and maintenance titles to provide a practical overview for duty holders responsible for maintaining electrical systems
- designed for use by electrical contractors carrying out maintenance and by duty holders and building services engineers

2015 / 140pp / £60 / $99
Print PSES101P / 978-1-84919-921-6
VS eBook PSES101V / 978-1-78561-148-3

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Title	Format	Pub date	Price £	Price $	ISBN	Product Code
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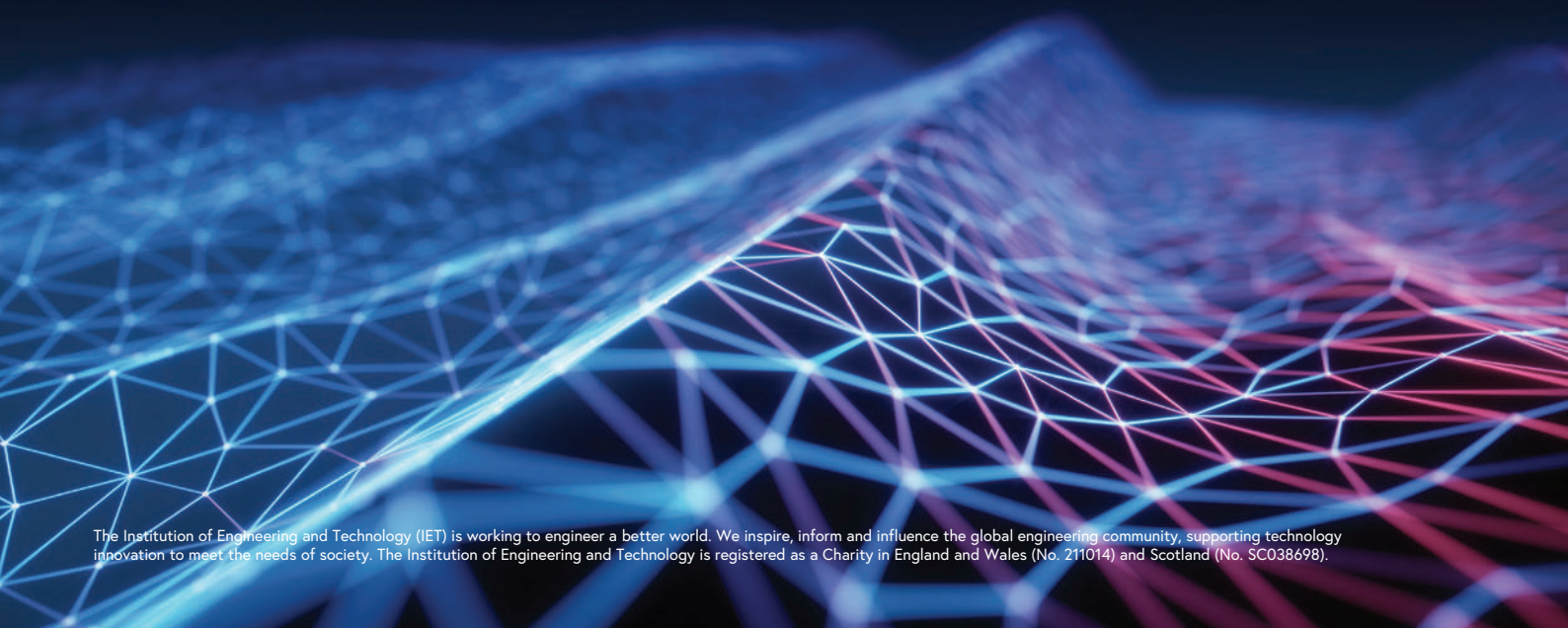

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