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NEW RELEASE



The authoritative guide to optical OFDM – a key technology for the implementation of 100G Ethernet networks, which will make applications such as IPTV and video-on-demand a reality.

Orthogonal Frequency Division Multiplexing for Optical Communications

William Shieh
Ivan Djordjevic

KEY FEATURES:

- The first book on optical OFDM by the leading pioneers in the field
- The only book to cover error correction codes for optical OFDM
- Applications of OFDM to free-space communications, optical access networks, and metro and long haul transports

DESCRIPTION:

In optical communications, there is a big push to develop 100G Ethernet in order to realize applications such as Internet Protocol (IPTV), mobile TV and video-on-demand. IPTV is predicted to grow from \$1.5 billion in 2006 to \$9.3 billion in 2010.

One of the most important technologies seen as enabling these types of applications is optical orthogonal frequency division multiplexing (OFDM). This has resulted in considerable research activity in the area: at the premier optical fiber communications conference (OFC 2008) and trade show, it was the hot topic.

Optical R&D engineers need a book that strikes the balance between optics and OFDM. For an optical communications engineer to understand the sophistication of OFDM is challenging – they need a good introduction to OFDM, OFDM signal processing and coded OFDM. This book does that, as well as showing how it can be applied to optical fiber communications.

RELATED TITLES:

Kaminow: Optical Fiber Telecommunications V A and B, 9780123741714/ 9780123741721, Feb 2008, 944pp/ 928pp, \$150/ £79.99 each volume. Sales to date: Vol A 251, Vol B 258. Previous edition LTD sales: Vol A 1857, Vol B 1815.

Agrawal: Applications of Nonlinear Fiber Optics, 2e, 9780123743022, Feb 2008, 528pp, \$89.95/ £49.95. Sales to date: 161.

Lam: Passive Optical Networks, 9780123738530, October 2007, 368pp, \$99.95/ £59.99. Sales to date: 400.

ISBN: 978-0-12-374879-9

PUB DATE: late October 2009

LIST PRICE: \$119.95

DISCOUNT: Agency

FORMAT: Hardback

PAGES: c. 352

TRIM SIZE: 6w x 9h "

AUDIENCE: R&D optical communications engineers developing next generation optical components, systems and networks; wireless and signal processing engineers working in optical communications

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Optics,
TECHNOLOGY /
Telecommunications,
TECHNOLOGY / Engineering /
Electrical

BISAC CODES: TEC030000,
TEC041000, TEC009030

MARKETING: Cluster E-
brochure, trade shows and
conferences, online display ads,
2x-Email blast to in-house
subscribers, e-newsletters, and
web feature

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RP/02/Bur - May 2009 Package

Shieh: Orthogonal Frequency Division Multiplexing for Optical Communications (978-0-12-374879-9)

TABLE OF CONTENTS:

Introduction; Principles of OFDM; Optical Communication Fundamentals; Polarization Effects in Optical Fiber; Signal Processing for OFDM; Coded OFDM; Various Optical OFDM Scenarios; OFDM for Single Mode Fiber Systems; OFDM for Multimode Fiber Systems; OFDM for Free Space Optical Systems; OFDM Applications in Access Networks; Future Direction and Standardization

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NEW RELEASE



Practical, worked examples lead the way to understanding programmable logic controllers, essential to industrial automation!

Programmable Logic Controllers, 5e

W. Bolton

Formerly Lecturer at Buckingham Chilterns University College, U.K.

KEY FEATURES:

- New material on combinational logic, sequential logic, I/Os, and protocols and networking
- More worked examples throughout with more chapter-ending problems
- As always, the book is vendor agnostic allowing for general concepts and fundamentals to be taught and applied to several controllers

DESCRIPTION:

A programmable logic controller (PLC) is a real-time system optimized for use in severe conditions such as high/low temperatures or an environment with excessive electrical noise. This control technology is designed to have multiple interfaces (I/Os) to connect and control multiple mechatronic devices such as sensors and actuators.

Programmable Logic Controllers, 5e, continues to be a straightforward, easy-to-read book that presents the principles of PLCs while not tying itself to one vendor or another. Extensive examples and chapter-ending problems utilize several popular PLCs currently on the market highlighting understanding of fundamentals that can be used no matter the specific technology. Ladder programming is highlighted throughout with detailed coverage of design characteristics, development of functional blocks, instruction lists, and structured text. Methods for fault diagnosis, testing and debugging are also discussed. This edition has been enhanced with new material on I/Os, logic, and protocols and networking.

RELATED TITLES:

- Parr: Programmable Controllers, 3E (Newnes 2003) ISBN: 9780750657570 \$66.95 448 pp. 1237 Units / Global Revenue: \$42,419.90 Bookscan: 68
- Bolton: Instrumentation & Control Systems, (Newnes, 2004) ISBN: 9780750664325 \$44.95 352 pp. 2914 Units / Global Revenue: \$72,815.36 Bookscan: 174

ISBN: 978-1-85617-751-1

PREVIOUS EDITION ISBN:
9780750681124

PUB DATE: late August 2009

LIST PRICE: \$49.95

DISCOUNT: Agency

FORMAT: Paperback

PAGES: c. 416

TRIM SIZE: 7.5w x 9.25h "

AUDIENCE: Systems engineers, hardware engineers, technicians; students at a 2-year university

SHELVING CLASSIFICATIONS:
TECHNOLOGY / Electronics / Microelectronics, TECHNOLOGY / Electronics / General, TECHNOLOGY / Automation

BISAC CODES: TEC008070, TEC008000, TEC004000

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subscribers, e-newsletters, and web feature.

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RP/32/Bur - May 2009 Package

Bolton: Programmable Logic Controllers, 5e (978-1-85617-751-1)

TABLE OF CONTENTS:

Programmable Logic Controllers; Input-Output Devices; Number Systems; I/O Processing; Ladder and Functional Block Programming; IL, SFC and ST Programming Methods; Internal Relays; Jump and Call; Timers; Counters; Shift Registers; Data Handling; Designing Systems; Programs; Symbols; Answers to Problems

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NEW RELEASE

 William
Andrew
Applied Science Publishers

An extensive update of the many improvements in deposition technologies, mechanisms, and applications

Handbook of Deposition Technologies for Films and Coatings, 3e

Science, Applications and Technology

Peter M. Martin

KEY FEATURES:

- Explains in depth the many recent improvements in deposition technologies and applications
- Thoroughly explains deposition technologies and their current applications
- Discusses the numerous 'frontier areas' for the applications of the products of deposition technology

DESCRIPTION:

This Third Edition, edited by Peter M. Martin, *PNNL 2005 Inventor of the Year*, is an extensive update of the many improvements in deposition technologies, mechanisms, and applications.

This long-awaited revision includes updated and new chapters on atomic layer deposition, cathodic arc deposition, sculpted thin films, polymer thin films and emerging technologies. Extensive material was added throughout the book, especially in the areas concerned with plasma-assisted vapor deposition processes and metallurgical coating applications.

ISBN: 978-0-8155-2031-3

PUB DATE: October 2009

LIST PRICE: \$249.00

DISCOUNT: Agency

FORMAT: Hardback

PAGES: c. 900

TRIM SIZE: 7w x 10h"

AUDIENCE: Engineers, technicians, and plant personnel in the semiconductor and related industries. All institutions that are involved with thin film coating technology, including industry, government and national laboratories, colleges and universities.

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Electronics / Microelectronics, TECHNOLOGY / Metallurgy, TECHNOLOGY / Manufacturing

BISAC CODES: TEC008070, TEC023000, TEC020000

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subscribers, e-newsletters, and web feature

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RP/59/Buy - May 2009 Package

Martin: Handbook of Deposition Technologies for Films and Coatings, 3e
(978-0-8155-2031-3)

TABLE OF CONTENTS:

- Chapter 1. Deposition Technologies: An Overview (Martin)
- Chapter 2. Plasmas in Deposition Processes (Joe Greene, Scott Walton)
- Chapter 3. Surface Preparation for Film and Coating Deposition Processes (Don Mattox)
- Chapter 4. Evaporation: Processes, Bulk Microstructures and Mechanical Properties (Ismat Shaw)
- Chapter 5. Sputter Deposition Processes (Roger DeGryse, David Glocker, Joe Greene)
- Chapter 6. Ion Plating (Don Mattox)
- Chapter 7. Chemical Vapor Deposition/Atomic Layer Deposition (Arto Pakalla)
- Chapter 8. Plasma-Enhanced Chemical Vapor Deposition (Ludvik Martinu, Jolanta Klemberg-Sapieha)
- Chapter 9. Plasma-Assisted Vapor Deposition Processes (Scott Walton)
- Chapter 10. Filtered and Unfiltered Cathodic Arc Processes (Andre Anders)
- Chapter 11. Polymer Deposition Processes (Mark Gross, Gordon Graff)
- Chapter 12. Nucleation, Film Growth and Microstructural Evolution (Joe Greene)
- Chapter 13. Sculpted Thin Films (Kevin Robbie)
- Chapter 14. Metallurgical Applications (Ali Erdemir, Andrey Voedevin)
- Chapter 15. Advanced Thermal Spray Deposition Techniques (Tucker)
- Chapter 16. Non-Elemental Characterization of Films and Coatings (Don Mattox)
- Chapter 17. Characterization of Films and Coatings (John Grant)
- Chapter 18. Emerging Technologies (Hana Barankova, Ladislav Bardos)

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NEW RELEASE



A classic reference covering modern wiring practice for professional building services design and installation

Modern Wiring Practice, 14e

Design and Installation

W E Steward
T A Stubbs

"It is a book that I would thoroughly recommend to any person with an involvement in our industry for it is without doubt one of the very best available, written in a clear and readily understandable manner." Electrical Contractor (review of a previous edition)

KEY FEATURES:

- Brought fully in line with the 17th Edition IEE Wiring Regulations
- This well-established book has been continuously in print since 1952
- The only book to cover both design and installation in one volume

DESCRIPTION:

Continuously in print since 1952, *Modern Wiring Practice* has now been fully revised to provide a reference to building services design and installation in the 21st century. The first part covers the design of electrical installation systems and takes the reader through all the stages from the design brief to verifying the design and testing and commissioning. The second part illustrates contemporary installation techniques including conduit systems.

This new edition incorporates the latest thinking on sustainability and the environment and is fully up-to-date with the 17th Edition IEE Wiring Regulations that came into force in July 2008. The illustrations have been completely updated to show the latest practice and are now in full color.

RELATED TITLES:

Scaddan: 17th Edition IEE Wiring Regulations: Design & Verification of Electrical Installations 6e (May 2008, £11.99, ISBN: 9780750687218)

Kitcher: Practical Guide to Inspection, Testing and Certification of Electrical Installations 2e (Nov 2008, £15.99, ISBN: 9781856176071)

Tricker: Wiring Regulations in Brief 2e (Aug 2008, £21.99, ISBN: 9780750689731)

ISBN: 978-1-85617-692-7

PREVIOUS EDITION ISBN:
978-0-7506-6662-6

PUB DATE: October 2009

LIST PRICE: \$50.95

DISCOUNT: Agency

FORMAT: Paperback

PAGES: c. 376

TRIM SIZE: 6w x 9h "

AUDIENCE: Primary audience:
Electrical installation engineers,
electrical designers, electrical
engineers and anyone responsible
for building services design and
installation to UK standards.

Secondary audience: facilities
managers and architects.

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Construction /
Electrical, TECHNOLOGY /
Engineering / Electrical

BISAC CODES: TEC005030,
TEC009030

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SB/18/Kid - September 2009 Package
Mail Date 4/2009

Steward: Modern Wiring Practice, 14e (978-1-85617-692-7)

TABLE OF CONTENTS:

Part 1 - Design of electrical installation systems: Regulations governing electrical installations; Process of design; Design of an electrical distribution system; Selection and erection of wiring systems; Fundamental principles; Other Considerations. **Part 2 - Practical work:** A survey of installation methods; Conduit systems; Trunking systems; Busbar and grid catenary systems; Power cable systems; All-insulated wiring systems; Luminaires, switches, socket outlets and accessories; Earthing; Inspection and testing. Appendices; Index.

ELSEVIER

NEW RELEASE

W William
Andrew
Applied Science Publishers

The most important book for manufacturing sensors with MEMS technologies

Handbook of Silicon Based MEMS Materials & Technologies

Veikko Lindroos
Markku Tilli
Ari Lehto
Teruaki Motooka

KEY FEATURES:

- Provides vital packaging technologies and process knowledge for silicon direct bonding, anodic bonding, glass frit bonding, and related techniques
- Shows how to protect devices from the environment and decrease package size for dramatic reduction of packaging costs
- Discusses properties, preparation, and growth of silicon crystals and wafers
- Explains the many properties (mechanical, electrostatic, optical, etc), manufacturing, processing, measuring (including focused beam techniques), and multiscale modeling methods of MEMS structures

DESCRIPTION:

This book explains how bulk micromachining using silicon wafers, supplemented by surface micromachining techniques, produces in new solutions with SOI wafers as starting material. It also explains core concepts, including deep reactive ion etching (DRIE), lithography of high aspect ratio (HAR) structures, dry and wet etching, with SOI-starting material.

ISBN: 978-0-8155-1594-4

PUB DATE: September 2009

LIST PRICE: \$245.00

DISCOUNT: Agency

FORMAT: Hardback

TRIM SIZE: 7w x 10h"

AUDIENCE: Engineers, researchers and scientists in sensor manufacturing.

SHELVING CLASSIFICATIONS:
TECHNOLOGY / Engineering / General, TECHNOLOGY / Nanotechnology, TECHNOLOGY / Engineering / Mechanical

BISAC CODES: TEC009000, TEC027000, TEC009070

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subscribers, e-newsletters, and web feature

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RP/59/Kid - May 2009 Package

Lindroos: Handbook of Silicon Based MEMS Materials & Technologies (978-0-8155-1594-4)

TABLE OF CONTENTS:

Silicon as MEMS Material; Modeling in MEMS; Measuring MEMS; Micromachining Technologies in MEMS; Encapsulation of MEMS Components

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NEW RELEASE



The single source handbook for safety and flow control professionals: technical and standards information and complete detail of the ASME VIII and European Pressure Equipment Directive (PED) codes

The Safety Relief Valve Handbook

Design and Use of Process Safety Valves to ASME and International Codes and Standards

Marc Hellemans

Independent Consultant, Belgium; formerly Tyco Flow Control, US & UK

KEY FEATURES:

- No other publication is dedicated to safety valves or to the extensive codes and standards that govern their installation and use
- Unique coverage of US and European codes, including the ASME VIII and European PED codes; safety valve recommendations of the API (American Petroleum Institute) and the European Normalisation Committees, including DIN and BS; NACE and ATEX codes
- Accompanying website with online valve selection tools and codes reference

DESCRIPTION:

The Safety Valve Handbook is a professional reference for design, process, instrumentation, plant and maintenance engineers who work with fluid flow and transportation systems in the process industries. It meets the need of engineers who have responsibilities for specifying, installing, inspecting or maintaining safety valves and flow control systems who need to understand the operation of safety valves and the international codes that direct how they are used and maintained.

RELATED TITLES:

Smith & Zappe: Valve Selection Handbook (2004) \$96.95/£54.99 GULF 9780750677172

Skousen: Valve Handbook (2004) \$131/£75.00 McGraw-Hill 9780071437738

Malek: Pressure Relief Devices (2005) \$99.95/£57.99 McGraw-Hill 9780071455374

ISBN: 978-1-85617-712-2

PUB DATE: late October 2009

LIST PRICE: \$105.00

DISCOUNT: Agency

FORMAT: Hardback

Illustrated

PAGES: c. 320

TRIM SIZE: 7.75w x 9.375h "

AUDIENCE: Safety and loss prevention professionals; process and plant engineers in all chemical, petroleum and process industry sectors

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Engineering / Chemical & Biochemical, TECHNOLOGY / Engineering / Mechanical

BISAC CODES: TEC009010, TEC009070

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subscribers, e-newsletters, and web feature

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DH/02/Kid - September 2009 Package
Mail Date 4/2009

Hellemans: The Safety Relief Valve Handbook (978-1-85617-712-2)

TABLE OF CONTENTS:

Preface; Valve basics; Overpressure protection; Terminology; Codes and Standards; ASME & API; PED; NACE; Design Fundamentals; Installation; Sizing; Noise; Safety Valve selection; Maintenance and testing; Cryogenic applications; Non-Conformance of existing pressure relief systems

ELSEVIER

KEY TITLE



An introduction to the concepts and practice of modern engineering using an interdisciplinary case example approach

Exploring Engineering, 2e

An Introduction to Engineering and Design

Philip Kosky

G.E. Distinguished Research Professor of Mechanical Engineering Union College, Schenectady, N.Y

Robert T. Balmer

Retired, Dean of Engineering and Computer Science Union College, Schenectady, N.Y

William D. Keat

Associate Professor Union College, Schenectady, N.Y

George Wise

Deputy Director of the Dudley Observatory

KEY FEATURES:

- Introduces the fundamental physical, chemical and material bases for all engineering work using extended case study analysis
- New examples throughout the book in electrical, civil, chemical, mechanical/aerospace, manufacturing, and bioengineering
- New coverage of customer-centered design in Part II
- New homework and suggested projects increase the hands-on emphasis of the book
- New and updated emphasis on ethical decision making in engineering
- A new companion website offers a complete solutions manual, lecture slides and other support material to help implement the text successfully in the course

DESCRIPTION:

Winner in its first edition of the *Best New Undergraduate Textbook* by the Professional and Scholarly Publishing Division of the American Association of Publishers (AAP), Kosky et al. is the first text offering an introduction to the major engineering fields, and the engineering design process, with an interdisciplinary case study approach. It introduces the fundamental physical, chemical and material bases for all engineering work and presents the engineering design process using examples and hands-on projects.

RELATED TITLES:

Engineering Fundamentals and Problem Solving 5e (Hardcover) Arvid Eide et al. \$148.75 480pp. 2007 McGraw-Hill 9780073191584

Foundations of Engineering 2e (Hardcover) Mark Holtzapple and W. Dan Reece \$116.56 752 pp. 2002 McGraw-Hill 9780072480825

Engineering Fundamentals: An Introduction to Engineering 3e (Paperback) Saeed Moaveni \$95.95 648 pp. 2007 Cengage 9780495082538

ISBN: 978-0-12-374723-5

PREVIOUS EDITION ISBN:
9780123694058

PUB DATE: October 2009

LIST PRICE: \$89.95

DISCOUNT: TextBook

FORMAT: Hardback

TRIM SIZE: 7.75w x 9.375h "

PRINT RUN: 3601

AUDIENCE: Freshman undergraduate students entering 4-year engineering programs majoring in engineering areas such as mechanical, electrical, chemical, industrial, and civil engineering; Freshman undergraduate students who are taking an Introduction to Engineering Course as a requirement for a technical degree or as an elective for science and technology requirements.

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Engineering / General, TECHNOLOGY / Engineering / Mechanical.

BISAC CODES: TEC009000, TEC009070

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subscribers, e-newsletters, and web feature.

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RP/02/Bur - May 2009 Package

Kosky: Exploring Engineering, 2e (978-0-12-374723-5)

TABLE OF CONTENTS:

Foreword

Part 1: Minds-on

Chapter 1: What Engineers Do

Chapter 2: Key Elements of Engineering Analysis

Chapter 3: How to solve problems and spreadsheet analyses

Chapter 4: Energy: Kinds, Conversion, and Conservation

Chapter 5: Chemical Energy of Fuels

Chapter 6: Powering the Future

Chapter 7: Electrical Circuits

Chapter 8: Logic and Computers

Chapter 9: Control Systems Design and Mechatronics

Chapter 10: Kinematics of Motion

Chapter 11: Materials Engineering

Chapter 12: Bioengineering

Chapter 13: Chemical Engineering

Chapter 14: Manufacturing

Part 2: Hands-on

Chapter 15: Introduction to Engineering Design

Chapter 16: Two Ground Rules for Design

Chapter 17: Clarification of the Task

Chapter 18: Generation of Alternative Concepts

Chapter 19: Evaluation of Alternatives and Selection of a Concept

Chapter 20: Detailed Design

Chapter 21: Oral Design Defense

Chapter 22: Manufacturing and Testing

Chapter 23: Performance Evaluation

Chapter 24: Design Report

Chapter 25: An Example of a Design Competition: "A Bridge Too Far."

Chapter 26: Closing Remarks on the Important Role of Design Projects

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NEW RELEASE

 William
Andrew
Applied Science Publishers

The first comprehensive collection of information on engineering metrology in the field of micro and nanotechnology

Fundamental Principles of Engineering Nanometrology

Richard Leach

National Physical Laboratory, UK

KEY FEATURES:

- Provides a basic introduction to measurement and instruments
- Thoroughly presents numerous measurement techniques, from static length and displacement to surface topography, mass and force
- Covers multiple optical surface measuring instruments and related topics (interferometry, triangulation, confocal, variable focus, and scattering instruments)
- Explains, in depth, the calibration of surface topography measuring instruments (traceability; calibration of profile and area surface texture measuring instruments; uncertainties)
- Discusses the material in a way that is comprehensible to even those with only a limited mathematical knowledge

DESCRIPTION:

Fundamental Principles of Engineering Nanometrology provides a comprehensive overview of engineering metrology and how it relates to micro and nanotechnology (MNT) research and manufacturing.

By combining established knowledge with the latest advances from the field, it presents a comprehensive single volume that can be used for professional reference and academic study.

ISBN: 978-0-08-096454-6

PUB DATE: August 2009

LIST PRICE: \$149.00

DISCOUNT: Agency

FORMAT: Hardback

PAGES: c. 320

TRIM SIZE: 7.01w x 10h "

AUDIENCE: Academic and industrial researchers in MNT; Industrial MNT quality control personnel; PhD students in MNT; Post and undergraduate students on MNT courses; materials researchers; Design, manufacturing and measurement engineers

SHELVING CLASSIFICATIONS:

TECHNOLOGY / Industrial Technology, TECHNOLOGY / Nanotechnology, SCIENCE / Environmental Science

BISAC CODES: TEC018000, TEC027000, SCI026000

MARKETING: Cluster E-brochure, trade shows and conferences, online display ads, 2x-Email blast to in-house subs

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Leach: Fundamental Principles of Engineering Nanometrology (978-0-08-096454-6)

TABLE OF CONTENTS:

Introduction to metrology for micro- and nanotechnology; Some basics of measurement; Precision measurement instrumentation - some design principles; Length traceability using interferometry; Displacement measurement; Surface topography measurement instrumentation; Scanning probe and particle beam microscopy; Surface topography characterisation; Co-ordinate metrology; Mass and force measurement; References; Appendix A SI units of measurement and their realisation at NPL; Appendix B SI derived units