电子书推介 2022 年第 13 期（总第 18 期）

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2022-7-18

Handbook of Fiber Optic Data Communication：A Practical Guide to Optical Networking

Book • Third Edition • 2008

Edited by: Casimer DeCusatis

Part I: Technology Building Blocks

Part II: Links and Network Design

Part III: Applications & Industry Standards

Part IV: Emerging Technologies & Industry Directions

全文：http://www.sciencedirect.com/science/book/9780123742162

2D Materials

Edited by Francesca Iacopi, John J. Boeckl, Chennupati Jagadish

Chapter One - 2D Structures Beyond Graphene: The Brave New World of Layered Materials and How Computers Can Help Discover Them

Chapter Two - Efficient Multiscale Lattice Simulations of Strained and Disordered Graphene

Chapter Three - 2D Boron Nitride: Synthesis and Applications

Chapter Four - Elemental Group IV Two-Dimensional Materials Beyond Graphene

Chapter Five - Synthesis, Properties, and Stacking of Two-Dimensional Transition Metal Dichalcogenides

Chapter Six - Advances in 2D Materials for Electronic Devices

Chapter Seven - Black Phosphorus-Based Nanodevices

全文：http://www.sciencedirect.com/science/book/9780128042724

International Edition University Physics

Authors: George B. Arfken, David F. Griffing, ... Joseph Priest

Description

International Edition University Physics aims to provide an authoritative treatment and pedagogical presentation in the subject of physics. The text covers basic topics in physics such as scalars and vectors, the first and second condition of equilibrium, torque, center of gravity, and velocity and acceleration. Also covered are Newton's laws; work, energy, and power; the conservation of energy, linear momentum, and angular momentum; the mechanical properties of matter; fluid mechanics, and wave kinematics. College students who are in need of a textbook for introductory physics would find this book a reliable reference material.

全文：http://www.sciencedirect.com/science/book/9780120598588

Semiconductor Optoelectronic Devices：Introduction to Physics and Simulation

Authors: JOACHIM PIPREK

Chapter 1 - Introduction to Semiconductors
Chapter 2 - Electron Energy Bands
Chapter 3 - Carrier Transport
Chapter 4 - Optical Waves
Chapter 5 - Photon Generation
Chapter 6 - Heat Generation and Dissipation
Chapter 7 - Edge-Emitting Laser
Chapter 8 - Vertical-Cavity Laser
Chapter 9 - Nitride Light Emitters
Chapter 10 - Electroabsorption Modulator
Chapter 11 - Amplification Photodetector

全文：http://www.sciencedirect.com/science/book/9780080469782

Photodetectors：Materials, Devices and Applications

Edited by: Bahram Nabet

Key Features：

Reviews materials, detector types and devices

Addresses fabrication techniques, and the advantages and limitations and different types of photodetector

Considers a range of application for this important technology

Includes discussions of silicon photonics, detectors based on reduced dimensional charge systems, carbon nanotubes, graphene, nanowires, and more

全文：http://www.sciencedirect.com/science/book/9781782424451

Principles of Optics： Electromagnetic Theory of Propagation, Interference and Diffraction of Light

Sixth Edition • 1980

Authors: MAX BORN and EMIL WOLF

Description

Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light, Sixth Edition covers optical phenomenon that can be treated with Maxwell's phenomenological theory. The book is comprised of 14 chapters that discuss various topics about optics, such as geometrical theories, image forming instruments, and optics of metals and crystals. The text covers the elements of the theories of interference, interferometers, and diffraction. The book tackles several behaviors of light, including its diffraction when exposed to ultrasonic waves. The selection will be most useful to researchers whose work involves understanding the behavior of light.

全文：http://www.sciencedirect.com/science/book/9780080264820

Semiconductor Lasers：Fundamentals and Applications

Edited by: Alexei Baranov and Eric Tournié

Key Features

Provides a comprehensive review of semiconductor lasers and their applications in

engineering, biology, chemistry and medicine

Discusses photonic crystal lasers, high power semiconductor lasers and laser beams, and the use of semiconductor lasers in ultrafast pulse generation

Reviews applications of visible and near-infrared emitting lasers and mid- and far-infrared emitting lasers

全文：http://www.sciencedirect.com/science/book/9780857091215

Ultra-Wide Bandgap Semiconductor Materials

Edited by: Meiyong Liao, Bo Shen and Zhanguo Wang

Chapter 1 - Al-rich AlGaN semiconductor materials and their device applications

Chapter 2 - Semiconductor diamond

Chapter 3 - Progress in semiconductor β-Ga2O3

Chapter 4 - Recent progress of boron nitrides

Chapter 5 - Nanostructures based on UWBG materials

全文：http://www.sciencedirect.com/science/book/9780128154687

III-Nitride Semiconductors: Electrical, Structural and Defects Properties

Edited by: Omar Manasreh

Chapter 1 - Introduction to defects and structural properties of III-nitride semiconductors

Chapter 2 - Dopants in GaN

Chapter 3 - Defect engineering in III-nitrides epitaxial systems

Chapter 4 - Magnetic resonance studies of defects in GaN and related compounds

Chapter 5 - Characterization of native point defects in GaN by positron annihilation spectroscopy

Chapter 6 - Persistent photoconductivity in III-nitrides

Chapter 7 - Ion implantation, isolation and thermal processing of GaN and related materials

Chapter 8 - Radiation and processed induced defects in GaN

Chapter 9 - Residual stress in III–V nitrides

Chapter 10 - Structural defects in nitride heteroepitaxy

Chapter 11 - Optical phonon confinement in nitride-based heterostructures

全文：http://www.sciencedirect.com/science/book/9780444506306

Physics of Semiconductor Lasers

Authors: BOHDAN MROZIEWICZ, MACIEJ BUGAJSKI and WŁODZIMIERZ NAKWASKI

1 - Preface

2 - Physical Principles of the Operation of Semiconductor Lasers

3 - Basic Techniques for Fabricating Semiconductor Lasers

4 - The Design and Basic Characteristics of Semiconductor Lasers

5 - Review of the Structures and Properties of Fabry–Perot Cavity Junction Lasers

6 - Structures of Distributed Feedback Lasers

7 - Dynamic Properties of Junction Lasers and Methods for Improving Their Frequency Discrimination

8 - Thermal Effects Occurring in Semiconductor Lasers

9 - Principles of Modelling the Physical Phenomena in Junction Lasers

10 - Reliability of LEDs and Junction Lasers

全文：http://www.sciencedirect.com/science/book/9780444987372

Solid State Physics：An Introduction to Theory

Authors: Joginder Singh Galsin

Key Features

Provides an introduction to recent topics, such as the quantum hall effect, high-superconductivity and nanomaterials

Utilizes the Dirac' notation to highlight the physics contained in the mathematics in an appropriate and succinct manner

Includes many figures and solved problems throughout all chapters to provide a deeper understanding for students

Offers topics of particular interest to engineering students, such as elasticity in solids, dislocations, polymers, point defects and nanomaterials

全文：http://www.sciencedirect.com/science/book/9780128171035

Integrated Lasers on Silicon

Authors: Charles Cornet, Yoan Léger and Cédric Robert

Key Features

Features a clear description of the advantages, drawbacks, and challenges of laser integration on silicon

Serves as a staple reference in the general field of silicon photonics

Focuses on the promising developments of hybrid and monolithic III-V lasers on silicon, previously unreviewed

Discusses the different kinds of cavity geometries benchmarked with respect to their potential integration on silicon in an industrial environment

全文：http://www.sciencedirect.com/science/book/9781785480621