电子书推介 2022 年第 6 期（总第 11 期）

半导体所图书馆

2022-4-14

Advances in Semiconductor Lasers

Edited by James J. Coleman, A. Catrina Bryce, Chennupati Jagadish

全文：http://www.sciencedirect.com/science/book/9780123910660

Silicon Photonics

Edited by Sebastian Lourdudoss, Ray T. Chen, Chennupati Jagadish

全文：http://www.sciencedirect.com/science/book/9780128150993

Defects in Semiconductors

Edited by Lucia Romano, Vittorio Privitera, Chennupati Jagadish

全文：http://www.sciencedirect.com/science/book/9780128019351

III-Nitride Electronic Devices

Edited by Rongming Chu, Keisuke Shinohara

全文：http://www.sciencedirect.com/science/book/9780128175446

Nitride Semiconductor Light-Emitting Diodes (LEDs)： Materials, Technologies, and Applications

Second Edition • 2018

Edited by: JianJang Huang, Hao-Chung Kuo and Shyh-Chiang Shen

Part One: Materials and fabrication

Part Two: Performance of nitride LEDs

Part Three: Applications of nitride LEDs

全文：http://www.sciencedirect.com/science/book/9780081019429

Molecular Beam Epitaxy：From Research to Mass Production

Edited by: Mohamed Henini

This multi-contributor handbook discusses Molecular Beam Epitaxy (MBE), an epitaxial deposition technique which involves laying down layers of materials with atomic thicknesses on to substrates. It summarizes MBE research and application in epitaxial growth with close discussion and a 'how to' on processing molecular or atomic beams that occur on a surface of a heated crystalline substrate in a vacuum.

MBE has expanded in importance over the past thirty years (in terms of unique authors, papers and conferences) from a pure research domain into commercial applications (prototype device structures and more at the advanced research stage). MBE is important because it enables new device phenomena and facilitates the production of multiple layered structures with extremely fine dimensional and compositional control. The techniques can be deployed wherever precise thin-film devices with enhanced and unique properties for computing, optics or photonics are required. This book covers the advances made by MBE both in research and mass production of electronic and optoelectronic devices. It includes new semiconductor materials, new device structures which are commercially available, and many more which are at the advanced research stage.

全文：http://www.sciencedirect.com/science/book/9780123878397

Lasers for Medical Applications：Diagnostics, Therapy and Surgery

Edited by: Helena Jelínková

Part I: Laser–tissue interaction

Part II: Types of laser used in medicine

Part III: Lasers in diagnostics

Part IV: Laser therapy and surgery

全文：http://www.sciencedirect.com/science/book/9780857092373

Introduction to Fiber-Optic Communications

Authors: Rongqing Hui

Introduction to Fiber-Optic Communications provides students with the most up-to-date, comprehensive coverage of modern optical fiber communications and applications, striking a fine balance between theory and practice that avoids excessive mathematics and derivations. Unlike other textbooks currently available, this book covers all of the important recent technologies and developments in the field, including electro-optic modulators, coherent optical systems, and silicon integrated photonic circuits. Filled with practical, relevant worked examples and exercise problems, the book presents complete coverage of the topics that optical and communications engineering students need to be successful.

From principles of optical and optoelectronic components, to optical transmission system design, and from conventional optical fiber links, to more useful optical communication systems with advanced modulation formats and high-speed DSP, this book covers the necessities on the topic, even including today's important application areas of passive optical networks, datacenters and optical interconnections.

全文：http://www.sciencedirect.com/science/book/9780128053454

Optical Fiber Telecommunications：Systems and Networks

Sixth Edition • 2013

Optical Fiber Telecommunications VI (A&B) is the sixth in a series that has chronicled the progress in the R&D of lightwave communications since the early 1970s. Written by active authorities from academia and industry, this edition brings a fresh look to many essential topics, including devices, subsystems, systems and networks. A central theme is the enabling of high-bandwidth communications in a cost-effective manner for the development of customer applications. These volumes are an ideal reference for R&D engineers and managers, optical systems implementers, university researchers and students, network operators, and investors.

Volume A is devoted to components and subsystems, including photonic integrated circuits, multicore and few-mode fibers, photonic crystals, silicon photonics, signal processing, and optical interconnections.

Volume B is devoted to systems and networks, including advanced modulation formats, coherent detection, Tb/s channels, space-division multiplexing, reconfigurable networks, broadband access, undersea cable, satellite communications, and microwave photonics.

全文：http://www.sciencedirect.com/science/book/9780123969606

Reliability of Semiconductor Lasers and Optoelectronic Devices

Edited by: Robert W. Herrick and Osamu Ueda

全文：http://www.sciencedirect.com/science/book/9780128192542

Handbook of Terahertz Technology for Imaging, Sensing and Communications

Edited by: Daryoosh Saeedkia

全文：http://www.sciencedirect.com/science/book/9780857092359

The Physics of SiO2 and its Interfaces

Proceedings of the International Topical Conference on the Physics of SiO2 and Its Interfaces Held at the IBM Thomas J. Waston Research Center, Yorktown Heights, New York, March 22–24, 1978

Edited by: SOKRATES T. PANTELIDES

全文：http://www.sciencedirect.com/science/book/9780080230498

III-Nitride Semiconductor Optoelectronics

Edited by Zetian Mi, Chennupati Jagadish

全文：http://www.sciencedirect.com/science/book/9780128095843

High Performance Silicon Imaging：Fundamentals and Applications of CMOS and CCD Sensors

Second Edition • 2020

Edited by: Daniel Durini

High Performance Silicon Imaging: Fundamentals and Applications of CMOS and CCD Sensors, Second Edition, covers the fundamentals of silicon image sensors, addressing existing performance issues and current and emerging solutions. Silicon imaging is a fast growing area of the semiconductor industry. Its use in cell phone cameras is already well established, with emerging applications including web,

security, automotive and digital cinema cameras. The book has been revised to reflect the latest state-of-the art developments in the field, including 3D imaging, advances in achieving lower signal noise, and new applications for consumer markets.

The fundamentals section has also been expanded to include a chapter on the characterization and testing of CMOS and CCD sensors that is crucial to the success of new applications. This book is an excellent resource for both academics and engineers working in the optics, photonics, semiconductor and electronics industries.

全文：http://www.sciencedirect.com/science/book/9780081024348