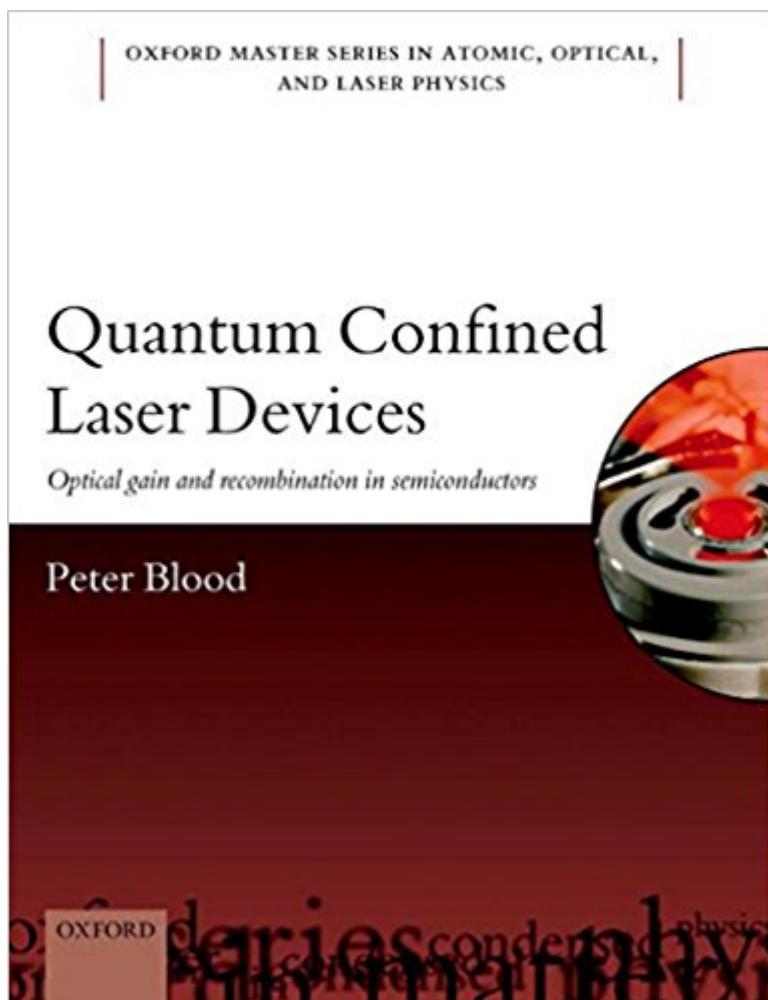


The book was found

Quantum Confined Laser Devices: Optical Gain And Recombination In Semiconductors (Oxford Master Series In Physics)



Synopsis

The semiconductor laser, invented over 50 years ago, has had an enormous impact on the digital technologies that now dominate so many applications in business, commerce and the home. The laser is used in all types of optical fibre communication networks that enable the operation of the internet, e-mail, voice and skype transmission. Approximately one billion are produced each year for a market valued at around \$5 billion. Nearly all semiconductor lasers now use extremely thin layers of light emitting materials (quantum well lasers). Increasingly smaller nanostructures are used in the form of quantum dots. The impact of the semiconductor laser is surprising in the light of the complexity of the physical processes that determine the operation of every device. This text takes the reader from the fundamental optical gain and carrier recombination processes in quantum wells and quantum dots, through descriptions of common device structures to an understanding of their operating characteristics. It has a consistent treatment of both quantum dot and quantum well structures taking full account of their dimensionality, which provides the reader with a complete account of contemporary quantum confined laser diodes. It includes plenty of illustrations from both model calculations and experimental observations. There are numerous exercises, many designed to give a feel for values of key parameters and experience obtaining quantitative results from equations. Some challenging concepts, previously the subject matter of research monographs, are treated here at this level for the first time.

Book Information

File Size: 24330 KB

Print Length: 400 pages

Publisher: OUP Oxford; 1 edition (October 22, 2015)

Publication Date: October 22, 2015

Sold by: Digital Services LLC

Language: English

ASIN: B01A70V4RK

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #1,037,910 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #11

inÃ Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Electrical & Electronics > Superconductivity #40 inÃ Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Electrical & Electronics > Optics > Lasers #68 inÃ Kindle Store > Kindle eBooks > Nonfiction > Science > Physics > Molecular Physics

Customer Reviews

Excellent review of fundamentals and device physics of Laser diodes

[Download to continue reading...](#)

Quantum Confined Laser Devices: Optical gain and recombination in semiconductors (Oxford Master Series in Physics) American National Standard for Safe Use of Lasers: ANSI Z136.1-2000 (ANSI (Laser Institute of America)) (ANSI (Laser Institute of America)) (ANSI (Laser Institute of America)) The Physics of Semiconductors: With Applications to Optoelectronic Devices Optical Thin Films: User's Handbook (Macmillan Series in Optical and Electro-Optical Engineering) Handbook of Optical and Laser Scanning, Second Edition (Optical Science and Engineering) Handbook of Organic Materials for Optical and (Opto)Electronic Devices: Properties and Applications (Woodhead Publishing Series in Electronic and Optical Materials) Advanced Molecular Quantum Mechanics: An Introduction to Relativistic Quantum Mechanics and the Quantum Theory of Radiation (Studies in Chemical Physics) Optical Processes in Semiconductors (Prentice-Hall electrical engineering series. Solid state physical electronics series) Conductors, Semiconductors, Superconductors: An Introduction to Solid State Physics (Undergraduate Lecture Notes in Physics) Optical Properties of Solids (Oxford Master Series in Physics) Quantum Entanglement in Electron Optics: Generation, Characterization, and Applications (Springer Series on Atomic, Optical, and Plasma Physics) Quantum Electrodynamics: Gribov Lectures on Theoretical Physics (Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology) Theory of Electron Transport in Semiconductors: A Pathway from Elementary Physics to Nonequilibrium Green Functions (Springer Series in Solid-State Sciences) Laser Moose and Rabbit Boy (Laser Moose and Rabbit Boy series, Book 1) Laser Moose and Rabbit Boy: Disco Fever (Laser Moose and Rabbit Boy series, Book Theory of Unimolecular and Recombination Reactions (Physical Chemistry Texts) Exercises for Airplanes: And Other Confined Spaces Atomic Physics (Oxford Master Series in Physics) The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) The Physics of Low-dimensional Semiconductors: An Introduction

[Contact Us](#)

DMCA

Privacy

FAQ & Help