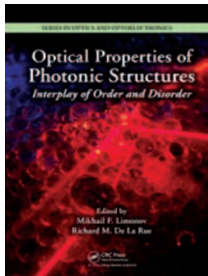


New titles at a glance

Optical Properties of Photonic Structures: Interplay of Order and Disorder

edited by Mikhail Limonov and Richard de la Rue
CRC PRESS. 574PP. £89

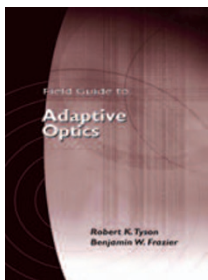


This volume discusses the operation and applications of photonic structures that feature either natural disorder or deliberately engineered order or disorder. Structures such as opals,

aperiodic Fibonacci-type one-dimensional photonic structures, photonic glasses and magneto-photonic crystals are discussed across three main sections that cover theory, experiment and applications. Phenomena such as Anderson localization, super diffusion and the behaviour of one-, two- and three-dimensional photonic crystals are also discussed.

Field Guide to Adaptive Optics

by Robert K. Tyson and Benjamin W. Frazier
SPIE PRESS. 142PP. US\$39



The second edition of this title is designed to provide a summary of the methods, equipment, techniques and requirements commonly encountered when designing an adaptive optics system. The

authors say that the book is intended to be a 'go to' resource for students, researchers and engineers who need fast answers to aid their projects and calculations. The volume is divided into chapters on modelling the effects of atmospheric turbulence, beam propagation, wavefront sensors, deformable mirrors, and control and reconstruction. The second edition of this title features a greatly expanded presentation of control system design and a more detailed discussion of control modes and algorithms. The authors dedicate this field guide to the late Horace Babcock, who pioneered the development of adaptive optics.

VCSELS: Fundamentals, Technology and Applications of Vertical-Cavity Surface-Emitting Lasers

edited by Rainer Michalzik
SPRINGER. 523PP. £126

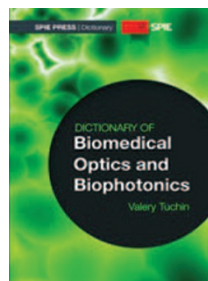


Summarizing the current state-of-the-art in vertical-cavity surface-emitting laser (VCSEL) technology, this book describes the design, characteristics and fundamentals of VCSEL operation.

Topics covered include polarization control and dynamics, high-power VCSEL arrays, visible- and long-wavelength VCSELS, and high-speed operation. The various applications of VCSELS in optical communication, parallel data interconnects, video links, sensors and laser printing are described. Important updates on the capabilities of VCSEL-based parallel optical interconnects and the present status of red and blue emitters are also included. The book is written at a level that suits researchers, optical engineers and graduate students.

Dictionary of Biomedical Optics and Biophotonics

by Valery Tuchin
SPIE PRESS. 594PP. US\$39



Featuring a total of 2,500 terms, this dictionary is likely to be a highly useful reference for those working at the interface of photonics and biology. Each entry offers a definition and explanation of

the relevant term, and bold cross-referencing makes navigation simple. This dictionary is based on an expansion and combination of two earlier books on tissue optics by the same author, published by SPIE in 2000 and 2007. The author says that although he has included as many relevant terms as possible, he is open to suggestions for terms to include in future editions.

Classical Electromagnetism in a Nutshell

by Anupam Garg
PRINCETON UNIVERSITY PRESS. 712PP. US\$99.50

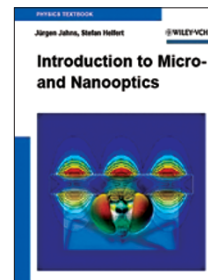


This graduate-level physics textbook provides a comprehensive treatment of the basic principles and phenomena of classical electromagnetism. The author distinguishes between

electromagnetism in vacuum and in material media, stressing that the core physical questions are different for each. In vacuum, the focus is on the fundamental content of electromagnetic laws, symmetries, conservation laws and the implications for phenomena such as radiation and light. In material media, however, the focus is on understanding the response of the media to imposed fields and the phenomena encountered in different types of media such as dielectrics, ferromagnets and conductors. The text covers the application of classical electromagnetism in topical areas such as plasmas, laser beams and synchrotrons.

Introduction to Micro- and Nanooptics

by Jurgen Jahns and Stefan Helfert
WILEY. 418PP. £39.95



This book provides the reader with an overview of the most important aspects of micro- and nanooptics. The text begins with a discussion into the concepts of light propagation and light as means of

transferring energy and information. Coverage then turns to refractive, reflective and diffractive optical elements and fabrication techniques such as lithography. The book concludes with sections on waveguide technologies, surface plasmons, photonic crystals and left-handed materials. Each chapter contains questions and exercises to aid students.