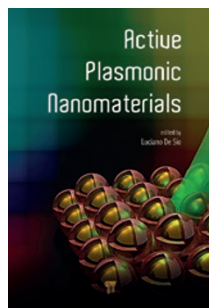


New titles at a glance

Active Plasmonic Nanomaterials

Edited by Luciano De Sio

PAN STANFORD 397PP. £95.00



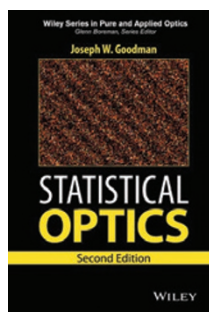
The book reviews recent efforts devoted to using nanoparticles in many research fields, such as photonics, optics and plasmonics. Particular focus is on active plasmonics, a quite broad concept that indicates those

applications in which nanoparticles play an active role, like the realization of gain-assisted means, utilization of nanoparticles embedded in liquid crystalline and flexible materials, and exploitation of renewable solar energy. The text is formed of contributions from research groups all over the world that are outstanding in the field of plasmonic nanomaterials. It provides basic and advanced knowledge about the fields of plasmonics, photonics and optics, and covers research on plasmonic nanomaterials for applications ranging from plasmonics to photonics.

Statistical Optics

By Joseph W. Goodman

WILEY 512PP. £76.95



This book discusses statistical methods that are useful for treating problems in modern optics, and the application of these methods for solving a variety of such problems. It covers the necessary background in statistics, statistical properties of

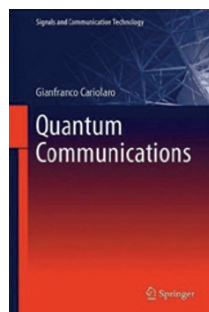
light waves of various types, the theory of partial coherence and its applications, imaging with partially coherent light, atmospheric degradations of images, and noise limitations in the detection of light. In the second edition, new topics like analysis of the van der Pol oscillator model of laser light, the cross-spectrum and bi-spectrum

techniques for obtaining images free from atmospheric distortions, and coherence tomography and coherence multiplexing of fibre sensors are included.

Quantum Communications

By Gianfranco Cariolaro

SPRINGER 673PP. £81.00



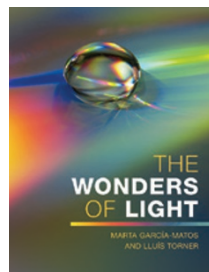
This book demonstrates that a quantum communication system using the coherent light of a laser can achieve performance orders of magnitude superior to classical optical communications systems. It contains

a complete basics-to-applications course in using the principles of quantum mechanics to provide cutting-edge telecommunications. Assuming only knowledge of elementary probability, complex analysis and optics, the book guides the reader through the fundamentals of vector and Hilbert spaces and the necessary quantum-mechanical ideas, simply formulated in four postulates. It also develops the engineering student's exposure to quantum mechanics and shows physics students that its theories can have practically beneficial applications in communications systems.

The Wonders of Light

By Marta García-Matos and Lluís Torner

CAMBRIDGE UNIV. PRESS 142PP. £19.99



This is a highly visual book with a modern, eye-catching design, and with simple explanations of high-tech, advanced scientific concepts, written by leading scientists. It describes many ways light impacts

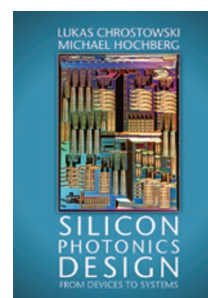
on our lives, and demonstrates the science behind the fascinating and surprising

ways in which light can be harnessed and used in all kinds of applications in our daily lives. It consists of sixteen beautiful, straightforward chapters, ranging from displays, solar cells and optogenetics through to the Internet and advanced quantum technologies. Published in association with the Institute of Photonic Sciences (ICFO) to celebrate the 2015 UNESCO International Year of Light and Light-based Technologies, this book is perfect for anyone interested in the frontiers of science, engineering or medicine, and in the phenomenal technological advances that have been made possible by human innovation.

Silicon Photonics Design: From Devices to Systems

By Lukas Chrostowski and Michael Hochberg

CAMBRIDGE UNIV. PRESS 437PP. £65.00



From design and simulation through to testing and fabrication, this hands-on introduction to silicon photonics engineering is the perfect learning package for senior undergraduate and graduate students studying

silicon photonics design, and academic and industrial researchers involved in the development and manufacture of new silicon photonics systems. It contains in-depth discussion of real-world issues and fabrication challenges, including non-uniformity, automated wafer- and chip-level testing, packaging, and design for test and manufacturability considerations. It covers passive components, active components including modulators, detectors and lasers, and big-picture systems design. Also included are step-by-step tutorials, straightforward examples and illustrative source code fragments. Offering industry-ready expertise, the text supports existing process design kits for complementary metal-oxide-semiconductor ultraviolet lithography foundry services and the development of new kits for proprietary processes and clean-room based research.