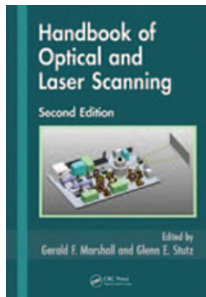


New titles at a glance

Handbook of Optical and Laser Scanning

by Gerald F. Marshall & Glenn E. Stutz
CRC PRESS. 788PP. US\$179.95

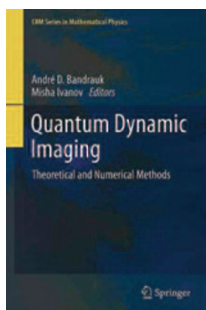


The potential applications of laser scanning continue to increase, thanks to the decreasing manufacturing costs of lasers as well as their increasing power and widespread availability. Bringing together the

knowledge and experience of 26 authors from England, Japan and the USA, this book provides an excellent resource for understanding the principles of laser scanning. It illustrates the importance of laser scanning and will help the reader get started in developing basic system concepts. The book can be used as an introduction to the field or as a reference for those involved in any aspect of optical and laser beam scanning. Topics covered include piezoelectric devices, the applications of laser scanning, underwater scanning and laser scanning in computer-to-plate imaging technology.

Quantum Dynamic Imaging

by André D. Bandrauk & Misha Ivanov
SPRINGER. 236PP. €99.95



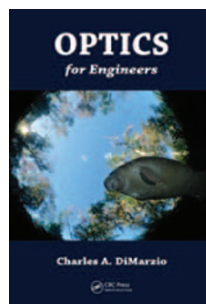
Studying and using light to control and transmit molecular information is among the most challenging and significant research fields to emerge in recent years. One of the fastest growing areas involves research in the

temporal imaging of quantum phenomena, ranging from molecular dynamics in the femtosecond regime of atomic motion to the attosecond regime of electron motion. This book calls on leading researchers to discuss these exciting state-of-the-art developments and their implications for research and development in view of the promise of quantum dynamic imaging as

an essential tool for controlling matter at the molecular level.

Optics for Engineers

by Charles A. DiMarzio
CRC PRESS. 558PP. £57.99

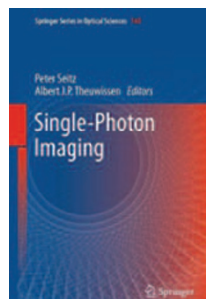


There is a growing need for engineers to understand the principles of optics to develop new instruments and improve existing optical instrumentation. This book provides a rigorous and practical

introduction to the field of optics. Drawing on his experience in industry, the author presents the fundamentals of optics related to the problems encountered by engineers and researchers in designing and analysing optical systems. This comprehensive reference includes downloadable MATLAB code as well as numerous problems, examples, and illustrations. Although designed as an introductory text for graduate and advanced undergraduate students, it is also a useful resource for researchers and engineers developing optical systems.

Single-Photon Imaging

by Peter Seitz & Albert J.P. Theuwissen
SPRINGER. 351PP. €119.50



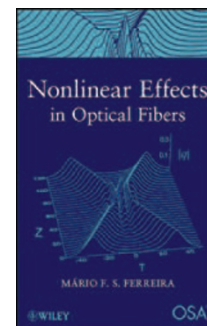
The acquisition and interpretation of images is a principal capability in almost all scientific and technological domains. In particular, the acquisition of electromagnetic radiation at visible, ultraviolet, infrared

and X-ray wavelengths is of enormous practical importance. The ultimate sensitivity in electronic imaging is the ability to detect individual photons. This volume is a comprehensive review

that covers all aspects of single-photon electronic imaging. Topics include theoretical basics, semiconductor fabrication, single-photon detection principles, imager design and applications for different spectral domains. Today, solid-state fabrication capabilities have advanced to the point where uncooled single-photon electronic imaging will soon become a consumer product. This volume gives a specialist's view of the forthcoming single-photon imaging revolution from several different perspectives. Various aspects of single-photon imaging are treated by internationally renowned leading scientists and technologists who are all pioneers in their respective fields.

Nonlinear Effects in Optical Fibers

by Mario F. S. Ferreira
WILEY-OSA. 384PP. US\$99.95



Continual advancements in the complexity of fibre-optic communication systems have increased the importance of understanding nonlinear effects in optical fibres, which, although capable of causing dramatic

reductions in system performance, can also potentially address the bandwidth bottleneck of high-speed optical signal processing. This volume provides insights into the principles and applications of nonlinear effects in fibres, and is therefore appropriate for students, researchers and developers who have a basic understanding of electromagnetic theory. It explores the physics, limitations, applications and research results surrounding nonlinear effects in fibre optics, as well as the physical and technical aspects of nonlinear effects for signal processing, pulse generation and amplification. In addition to their applications in the communications industry, optical fibres are also used in medical procedures, automobiles and aircraft, making this book of interest to engineers working in a wide variety of fields.