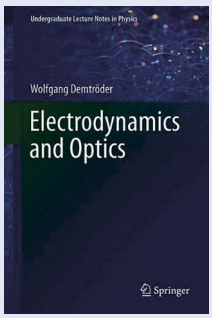
ON OUR BOOKSHELF

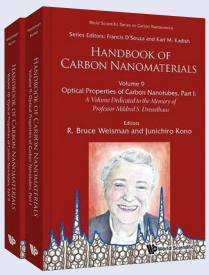


Electrodynamics and Optics

By Wolfgang Demtröder

SPRINGER: 2019. 901PP. £54.99.

This title provides the fundamentals of electromagnetics and optics. Written from the experimental physics point of view, this book gives numerous real-life examples and applications of devices, carefully linking theory and practical applications. It introduces static electric and magnetic fields, electromagnetic oscillations, and the formation and propagation of electromagnetic waves, before moving on to geometric and wave optics, optical instrumentation and discussions of new technologies in optics.

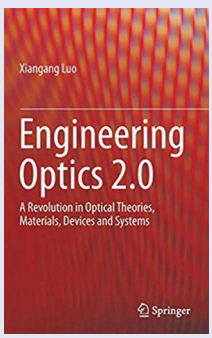


Handbook of Carbon Nanomaterials

Edited By R. Bruce Weisman and Junichiro Kono

WORLD SCIENTIFIC: 2019. 812PP. £280.00.

Volumes 9 and 10 of this handbook are a tribute to the career of Mildred Dresselhaus. They focus on the optical properties and spectroscopy of single-walled carbon nanotubes (CNTs) with chapters on the diverse experimental and theoretical aspects of the field. Volume 9 is made up of 7 chapters, covering topics such as optical spectroscopy of single-walled CNTs, electronic, optical and thermal properties of suspended CNTs, tip-enhanced spectroscopy and imaging of carbon nanomaterials, and exciton physics in single-walled CNT photonic and optoelectronic devices. Composed of 8 chapters, volume 10 discusses topics such as the effects of environment and collapsing on the optical properties of CNTs, probing the intrinsic vibrational and optical properties of individual chirality-identified CNTs by Raman spectroscopy, and optical spectroscopy of doped CNTs.

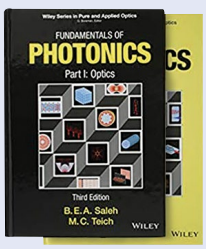


Engineering Optics 2.0

By Xiangang Luo

SPRINGER: 2019. 690PP. £99.99.

The past few decades have witnessed many changes to the field of optics, including the generalizing of refraction,reflection, diffraction, radiation and absorption theories. Modern engineering optics has entered a new phase termed 'engineering optics 2.0', enabling breaking through the barriers in traditional optical technologies. This text, with 14 chapters, covers both the theoretical basis and the engineering aspects in connection with various applications, such as super-resolution microscopy, sub-diffraction-limited nanolithography, sub-diffraction-limited telescopies, metalenses and metamirrors, generation and manipulation of special light beams, and structural colours and meta-holographic display.



Fundamentals of Photonics

By B. E. A. Saleh and M. C. Teich

WILEY: 2019. 1520PP. £148.00.

Constituting two volumes, this third edition features a blend of theory and applications, covering detailed accounts of the primary theories of light, including ray optics, wave optics, electromagnetic optics and photon optics, as well as the interaction of light and matter. Also presented are Fourier optics and holography, photonic-crystal optics, guided-wave and fibre optics, light-emitting diodes and lasers, acousto-optic and electro-optic devices, nonlinear optical devices, ultrafast optics, optical interconnects and switches, and optical fibre communications. The 24 chapters of the second edition have been thoroughly updated, and a new chapter on the optics of metals and plasmonic devices has been added.

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