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Nota di contenuto	Detail Modes of Binding Assessed by Bulk and Single Molecular Level Fluorescence, MD Simulation and its Temperature Dependence: Coumarin 152 with Human Serum Albumin Revisited -- Femtosecond Laser Induced Photothermal Ef-fect for Nanoscale Viscometer and thermometer -- Fluorescence optical tomography for cancer detection -- Mid-Infrared InAs/GaSb Type-II Superlattice Photodetector Arrays -- Nonlinearity Mitigation in Coherent Optical Communication Systems: All-Optical and Digital Signal Processing Approaches -- Novel Functionalities with Photonic Nanostructures -- Polarization coherence and entanglement -- Visualization of Motion Inside Droplets.
Sommario/riassunto	This volume comprises chapters on the cutting-edge research in photonics undertaken at IIT Kanpur. Photonics requires scientists and engineers to work closely together in addressing challenges which are interdisciplinary in nature. At IIT Kanpur, research is being pursued in several key areas of photonics namely fiber-optics, nanophotonics,

quantum optics, optical spectroscopy and imaging, biophotonics, and photonic devices. This volume brings together contributions from experts to obtain a contemporary perspective in photonics research. The reader will find articles about coherent optical communications, novel photonic nanostructures, nano-structured materials for light control, optical tweezers with nanoscale applications, quantum coherence and entanglement, photodiode arrays and quantum metrology. The volume also includes chapters on cancer diagnostics with optical tomography, protein fluctuations at microsecond scale at single-molecule level, and visualization of motion in a droplet which are interdisciplinary in nature. The contents of this book will be of use to researchers, students, and professionals working across all domains of photonics. .