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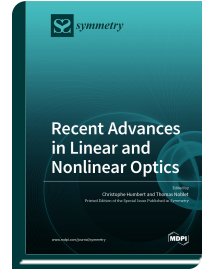
Recent Advances in Linear and Nonlinear Optics

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Sight is the dominant sense of mankind to apprehend the world at the earth scale and beyond the frontiers of the infinite, from the nanometer to the incommensurable. Primarily based on sunlight and natural and artificial light sources, optics has been the major companion of spectroscopy since scientific observation began. The invention of the laser in the early sixties has boosted optical spectroscopy through the intrinsic or specific symmetry electronic properties of materials at the multiscale (birefringence, nonlinear and photonic crystals), revealed by the ability to monitor light polarization inside or on the surface of designed objects. This Special Issue of *Symmetry* features articles and reviews that are of tremendous interest to scientists who study linear and nonlinear optics, all oriented around the common axis of symmetry. Contributions transverse the entire breadth of this field, including those concerning polarization and anisotropy within colloids of chromophores and metal/semiconducting nanoparticles probed by UV-visible and fluorescence spectroscopies; microscopic structures of liquid–liquid, liquid–gas, and liquid–solid interfaces; surface- and symmetry-specific optical techniques and simulations, including second-harmonic and sum-frequency generations, and surface-enhanced and coherent anti-Stokes Raman spectroscopies; orientation and chirality of bio-molecular interfaces; symmetry breaking in photochemistry; symmetric multipolar molecules; reversible electronic energy transfer within supramolecular systems; plasmonics; and light polarization effects in materials.



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