Special Issue

Non-Linear Optical Effects in Nanomaterials

Message from the Guest Editor

Nonlinear optics is the domain of optics that studies the physical interaction between one or multiple optical beams of high intensity and an optical medium. One of the main topics in modern materials science and in the field of photonics is the search for materials that exhibit multiple useful properties, including large nonlinear optical (NLO) effects, making them suitable for applications in numerous multidisciplinary areas such as frequency conversion, lasing, multiphoton fluorescence microscopy, or light switching. To expand these utilities, designing materials on a nanoscale with significant second- and third-order nonlinear optical properties plays an important role. The present Special Issue of *Nanomaterials* is aimed at presenting and giving a balanced view of the current state-of-the-art and recent advances in the field of second and third order NLO properties of materials on a nanoscale including a relatively new area of nanoscience: nonlinear plasmonics. Experimental, as well as theoretical, contributions are welcome, including full papers, communications, and reviews to obtain a complete snapshot of the ongoing research activity.

Guest Editor

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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