

Special Issue

Nonlinear Optical Property and Sensing Applications of Nanomaterials

Message from the Guest Editor

Ultrafast fiber lasers have been one of the most intensively developed topics over the past decade due to their potential applications, including material processing, medicine, laser spectroscopy, and mid-infrared source generation. Saturable absorber (SA) is the key component for passively mode-locked fiber lasers. In order to generate ultrafast pulses, passively mode-locked lasers with different SAs have been intensively investigated. To date, different types of nanomaterials with intensity-dependent transmission properties have been used as SAs to generate ultrafast pulses at different wavelengths. However, the reported nanomaterials presented the properties that limited their performances as ultrafast lasers. Hence, it is significant to prepare an SA based on nanomaterials for constructing ultrafast fiber lasers. This Special Issue aims to explore several outstanding nanomaterials for SA applications in ultrafast pulse generations. Moreover, as the ultrafast pulses transmit through optical fibers, interesting nonlinear devices would be formed. Combining the pulses with nanomaterials, various fiber laser sensing applications could be demonstrated.

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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