Special Issue

New Perspectives in Ultrafast Intense Laser Science and Technology

Message from the Guest Editors

During the propagation of high-intensity ultrafast lasers through the air, laser filamentation occurs, which can produce super-continuum spectral broadening, terahertz radiation, high harmonic generation, and other nonlinear optical phenomena. However, during the amplification, the presence of nonlinear effects limits the increase in their peak power. Although the CPA technique can further enhance peak power, the accumulation of gain narrowing and thermal effects will also limit its application under some special conditions. To overcome the above limitations, new high-power ultrafast laser technologies should be proposed and encouraged, including new ultrafast laser concepts, ultrashort pulse generation, and amplification technologies; new ultrafast laser processing technologies; and explorations of the interaction between ultrafast and laser matter. This Special Issue seeks to showcase research papers and review articles that focus on developing new approaches to high-power ultrafast lasers, i.e., novel ultrafast laser concepts, generation and amplification techniques, and applications of ultrafast intense lasers for laser processing and remote sensing detection.

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You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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