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Advanced Laser Ablation and Damage in Materials

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Message from the Guest Editors

Recent advances in high-power continuous-wave (CW) laser and short/ultra-short pulsed laser have introduced novel phenomena and mechanisms of ablation and damage in materials. To reveal the complex high-temperature and high-pressure physical and chemical processes with significant multiphase, multiscale and multifield coupling characteristics, advanced material models, computational methods, diagnostic technologies and artificial intelligent (AI) technology are required. The understanding of these ablation and damage behaviors could accelerate the application of high-power lasers in various industrial sectors, such as advanced manufacturing, thermal protection, laser cleaning, laser weapons, etc.

This Special Issue aims to be a forum for the presentation of the latest developments in basic and applied research in the field of laser ablation and damage in materials. Potential topics include, but are not limited to:

- Phenomena and mechanisms of laser ablation and damage;
- Thermal and mechanical responses of metals, polymers, ceramics and their composite materials;
- Theoretical, numerical and experimental characterization;
- Applications of advanced laser ablation and damage.

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Message from the Editor-in-Chief

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