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Laser-Induced Damage Properties of Optical Materials

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Deadline for manuscript
submissions:

closed (31 July 2023)

Message from the Guest Editors

Optical materials (such as fused silica, single crystal silicon, and KDP crystal) of laser systems can be damaged by laser radiation of sufficiently high power or energy. Damage behavior generally arises from the localized coupling of laser energy into material, leading to sufficiently rapid heating to induce a permanent material breakdown. Over the past dozen years, the laser-induced damage properties of optical materials have been extensively studied. With fused silica, for example, numerous efforts have been made to increase the surface damage threshold of the optics operating at UV wavelengths. Continual improvement of damage resistance and deep understanding of damage mechanisms of optical materials are still required for better applications. The purpose of the Special Issue is to exchange recent progress in laser-induced damage properties of optical materials for high-power or high-energy lasers, including laser-induced damage mechanisms, materials and film preparation, durability, properties modeling, testing, and component fabrication.



mdpi.com/si/124740

Special Issue



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Message from the Editor-in-Chief

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