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New Frontiers in Laser Welding

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Message from the Guest Editor

Laser welding is a precision welding process that enables high processing speed and low distortion due to low heat input into the base materials. It has been applied in various industries (e.g., automotive, electronics, etc.), but in its early states, it was mainly used for thin steel sheets. With the advances of power sources and optic technologies, new laser welding applications are being continuously introduced. Multi-kW fiber and disk lasers have been successfully applied to the welding of thick plates and nonferrous alloys due to the possibility for deep penetration and high absorptivity. More recently, the use of hard-to-weld material combinations has been continuously increasing in industrial applications, and innovative laser welding technologies are emerging to meet the requirements of these materials.

This Special Issue invites original review articles on recent advances in the development of innovative laser welding technologies based on new laser power sources, laser optics, systems, and monitoring technologies.



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