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Sommario/riassunto	Laser processing has become more relevant today due to its fast adaptation to the most critical technological tasks, its ability to provide processing in the most rarefied and aggressive mediums (vacuum conditions), its wide field of potential applications, and the green aspects related to the absence of industrial cutting chips and dust. With the development of 3D production, laser processing has received renewed interest associated with its ability to achieve pointed to high- precision powder melting or sintering. New technologies and equipment, which improve and modify optical laser parameters, contribute to better absorption of laser energy by metals or powder surfaces and allow for multiplying laser power that can positively influence the industrial spread of the laser in mass production and advance the existing manufacturing methods. The latest achievements in laser processing have become a relevant topic in the most authoritative scientific journals and conferences in the last half- century. Advances in laser processing have received multiple awards in the most prestigious competitions and exhibitions worldwide and at international scientific events. The Special Issue is devoted to the most recent achievements in the laser processing of various materials, such as cast irons, tool steels, high entropy alloys, hard-to-remelt materials, cement mortars, and post-processing and innovative manufacturing based on a laser.

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