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Sommario/riassunto	Laser shock processing (LSP) is a continuously developing effective technology used to improve surface and mechanical properties for metallic alloys. LSP is in direct competition with other established technologies, such as shot peening, both in preventive manufacturing treatments and maintenance/repair operations. The level of LSP maturity has increased in recent years and several thematic international conferences have been organized (i.e., the 7th ICLPRP held in Singapore, June 17-22, 2018) to discuss different developments of a number of key aspects. These aspects include: fundamental laser interaction phenomena; material behavior at high deformation rates/under intense shock waves; laser sources and experimental process implementation; induced microstructural/surface/stress effects; mechanical and surface properties with experimental characterization and testing; numerical process simulation; development and validation of applications; comparison of LSP to competing technologies; and novel related processes. All of these aspects have been recursively treated by well-renowned specialists, providing a firm basis for the further development of the technology in its path to industrial penetration. However, the application of LSP (and related technologies) on different types of materials with different applications (such as the always demanding aeronautical/aerospatial field or the energy generation, automotive, and biomedical fields) still requires extensive effort to elucidate and master different critical

aspects. Thus, LSP deserves a great research effort as a necessary step prior to its industrial readiness level. The present Special Issue of Metals in the field of "Laser Shock Processing and Related Phenomena" aims, from its initial launching date, to collect (especially for the use of LSP application developers in different target sectors) a number of high-quality and relevant papers representing state-of-the-art technology that is useful to newcomers in realizing its wide and relevant prospects as a key manufacturing technology. Consequently, in an additional and complementary way, papers were presented at the thematic ICLPRP conferences, and a call was made to authors willing to prepare high-quality and relevant papers to the journal, with the confidence that their work would become part of a fundamental reference collection regarding the present state-of-the-art LSP technology. The Special Issue includes two reviews and nine research papers. Each contribution adds to the reference knowledge of LSP technology and covers the practical totality of open issues, which will lead to present-day research at worldwide universities, research centers, and industrial companies.