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Soggetti	Manufactures Lasers Photonics Metals Manufacturing, Machines, Tools, Processes Optics, Lasers, Photonics, Optical Devices Metallic Materials
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. A Simple Analytical Model of Laser Bending Process -- Chapter 2. Laser Forming of Mild Steel Sheets Using Different Surface Coatings -- Chapter 3. Finite Element Simulations of Laser Bending of Small Sized Sheets -- Chapter 4. Numerical and Experimental Studies on Pulsed Laser Forming of Sheet Metal -- Chapter 5. Experimental Studies on TGM and BM Dominated Curvilinear Laser Bending of Aluminium Alloy Sheets -- Chapter 6. Mathematical Formulation For Development of Compound Curve Surface By Laser Line Heating -- Chapter 7. Surface Alloying of Aluminium with Copper Using CO2 Laser -- Chapter 8. Effect of Pulsed Nd: Yag Laser Parameters in Preplaced TiC Coating on Aluminium Substrate -- Chapter 9. Finite Element

Simulation of Laser Cladding for Tool Steel Repair -- Chapter 10.
Excimer Laser Micromachining and its Applications -- Chapter 11.
Laser Induced Micro-machining and Preliminary Experiments on
Manufacturing of Micro-channel on Mild Steel -- Chapter 12.
Fabrication of Micro Lens Array by Excimer Laser Micromachining --
Chapter 13. Studies on CO2 Laser Micromachining on PMMA to
Fabricate Micro Channel for Microfluidic Applications -- Chapter 14.
Energy Based Analysis of Laser Micro-channelling Process on
Polymethyl Methacrylate (PMMA) -- Chapter 15. Fiber Laser Micro-
machining of Ti-6Al-4V -- Chapter 16. Nd:Yag Laser Marking on
Zirconia Ceramic -- Chapter 17. Nd:Yag Laser Micro drilling of Sic-
30BN Nano-composite: Experimental Study and Process Optimization
-- Chapter 18. Pulsed Nd:Yag Laser Micro-Turning Process of Alumina
Ceramics -- Chapter 19. A Literature Review on CO2 Laser Welding --
Chapter 20. Fiber Laser Welding in a Controlled Inert Gas Atmosphere:
An Experimental & Numerical Investigation -- Chapter 21. A 3-D Finite
Element Analysis of Transient Temperature Profile of Laser Welded Ti-
6Al-4V Alloy -- Chapter 22. Selective Laser Sintering: A Case Study of
Tungsten Carbide and Cobalt Powder Sintering by Pulsed Nd:Yag Laser.

Sommario/riassunto

This book presents selected research papers of the AIMTDR 2014 conference on application of laser technology for various manufacturing processes such as cutting, forming, welding, sintering, cladding and micro-machining. State-of-the-art of these technologies in terms of numerical modeling, experimental studies and industrial case studies are presented. This book will enrich the knowledge of budding technocrats, graduate students of mechanical and manufacturing engineering, and researchers working in this area. .
