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Titolo	Advanced Noncontact Cutting and Joining Technologies [[electronic resource]] : Micro- and Nano-manufacturing / / by Rasheedat Modupe Mahamood, Esther Titilayo Akinlabi
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Descrizione fisica	1 online resource (238 pages)
Collana	Mechanical Engineering Series, , 0941-5122
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Soggetti	Manufactures Nanotechnology Lasers Photonics Manufacturing, Machines, Tools, Processes Nanotechnology and Microengineering Optics, Lasers, Photonics, Optical Devices
Lingua di pubblicazione	Inglese
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Nota di contenuto	Chapter1: Introduction to Advanced Cutting and Joining Processes -- Chapter2: Chemical Cutting Process -- Chapter3: Electrochemical Cutting Process -- Chapter4: Electro-Thermal Cutting Process -- Chapter5: Advanced Mechanical Cutting Process -- Chapter6: Application of Advanced Cutting Technologies to Micro and Nano Manufacturing -- Chapter7: Non-Contact Welding Technologies: Fusion Welding -- Chapter8: Non-Contact Welding Technologies: Solid State Welding -- Chapter9: Non Contact Micro and Nano Welding.
Sommario/riassunto	This book illuminates advanced cutting and joining processes, what they are used for, and the capabilities of these manufacturing techniques, especially in micro- and nano-fabrication. The authors illustrate the use of water jets and lasers that can be used to cut highly complex shapes without leaving burrs of heat affected zones, as well as friction stir welding processes that were not possible in the past. Rounding out their examination, the authors describe in detail the use

of additive manufacturing for fabrication of micro and nano-scale components and the direction of future research. Incorporating many examples from industry, the book is ideal for professional engineers, technicians, and fabrication managers in multiple industries. Maximizes understanding of advanced manufacturing processes and their capabilities, as well as the limitations of each of these technologies; Explains use of contactless manufacturing processes in applications such as electronics and sensor fabrication; Serves as a ready reference on the latest cutting and joining technologies, including those at the micro- and nano-scale.
