

1. Record Nr.	UNINA9910779526003321
Titolo	Advances in nanotechnology [[electronic resource]] . Volume 3 // Zacharie Bartul and Jerome Trenor, editors
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61761-751-2
Descrizione fisica	1 online resource (356 p.)
Collana	Advances in nanotechnolgy series ; ; 3
Altri autori (Persone)	BartulZacharie TrenorJerome
Disciplina	620/.5
Soggetti	Nanotechnology High technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""ADVANCES IN NANOTECHNOLOGY, VOLUME 3 ""; ""ADVANCES IN NANOTECHNOLOGY, VOLUME 3 ""; ""CONTENTS ""; ""PREFACE ""; ""CURRENT DIRECTIONS IN NANOMACHINING""; ""Abstract""; ""1. Nanomachining""; ""1.1. Basic Elements of Molecular Dynamics Modeling""; ""1.1.1. Material Representation and Microstructure""; ""1.1.2. Atomic Interaction""; ""1.1.2.1. Pair Potentials""; ""1.1.2.2. Many-Body Potentials""; ""1.1.3. Systems Dynamics and Numerical Description""; ""1.1.4. Boundary Conditions""; ""1.2. Design and Requirements for State-of-the-Art MD Cutting ProcessSimulations"" ""1.3. Capabilities of MD for Nanoscale Material Removal Process Analysis""""1.3.1. Analysis of Microstructure and Deformation""; ""1.3.2. Obtaining Cutting Forces, Stress and Temperature""; ""1.4. Advances and Recent Developments in Material Removal ProcessSimulation""; ""1.4.1. Three-Dimensional Surface Machining Simulation""; ""2. Micromachining""; ""2.1.1. Definitions and Technological Possibilities""; ""3.1.2. Main Applications of Micromachining""; ""2.2. Microturning""; ""2.2.1. Characteristic Features and Applications""; ""2.2.2. Microturning Tools and Tooling Systems"" ""2.2.3. Machine Tools for Microturning""""2.3 Microdrilling""; ""2.3.1. Characteristic Features and Applications""; ""2.3.2. Microdrills and Tooling Systems""; ""2.3.3. Machine Tools for Microdrilling""; ""2.4. Micromilling""; ""2.4.1. Characteristic Features and Applications"";

""2.4.2. Micromills and Tooling Systems""; ""2.4.3. Machine Tools for Micromilling""; ""2.5. Product Quality in Micromachining""; ""2.5.1. Quality Challenges in Micromachining""; ""2.5.2. Burr Formation in Micromachining Operations""; ""2.5.3. Surface Quality Inspection of Micromachining Products""
 ""3. Application of Micro and Nanomachining""""3.1. Typical Machining Methods""; ""3.1.1. Diamond Turning""; ""3.2. Applications in Optical Manufacturing""; ""3.2.1. Aspheric Lens""; ""3.2.2. Fresnel Lens""; ""3.2.3. Micro-structured Components""; ""3.3. Semiconductor and Electronic Applications""; ""3.3.1. Semiconductor Wafer Production""; ""3.3.2. LSI Substrate Planarization""; ""4. Conclusion""; ""Acknowledgements""; ""References""; ""BA(Ti,Zr)O₃ - FUNCTIONAL MATERIALS:FROM NANOPOWDERS TO BULK CERAMICS""; ""Abstract""; ""1. State of the Art for the BaTiO₃-BaZrO₃ System""
 ""2. Preparation and Characterization of Ba(Ti,Zr)O₃Nanopowders: Influence of the Processing Methodon the Structural and Morphological Properties""""2.1. Synthesis""; ""2.2. Formation Mechanism""; ""2.3. Phase Composition and Structure""; ""2.4. Morphology""; ""3. Preparation and Characteristics of Ba(Ti,Zr)O₃ Ceramics: Effectof Composition and Grain Size on the Functional Properties""; ""3.1. Ceramics from Powders Prepared by Classical Solid State Reaction""; ""3.1.1. Phase Composition and Microstructure""; ""3.1.2. Dielectric Properties""
 ""(a) The effect of frequency on the dielectric data for the BaTi_{0.9}Zr_{0.1}O₃ ceramics sinteredat different temperatures (size effects)""
