

1. Record Nr.	UNINA9910783029903321
Titolo	Non-equilibrium processing of materials [[electronic resource] /] / edited by C. Suryanarayana
Pubbl/distr/stampa	Amsterdam ; ; New York, : Pergamon, 1999
ISBN	1-281-07199-4 9786611071998 0-08-053762-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (459 p.)
Collana	Pergamon materials series ; ; v. 2
Altri autori (Persone)	SuryanarayanaC
Disciplina	671.3
Soggetti	Metals - Thermomechanical treatment Nonequilibrium thermodynamics Phase rule and equilibrium Metals - Rapid solidification processing
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	Front Cover; Non-equilibrium Processing of Materials; Copyright Page; Contents; Series Preface; Preface; List of Contributors; CHAPTER 1. INTRODUCTION; CHAPTER 2. THERMODYNAMICS AND KINETICS OF METASTABLE PHASE FORMATION; 2.1. Introduction; 2.2. Thermodynamics of Metastable Phase Formation; 2.3. Kinetics of Metastable Phase Formation; 2.4. Summary; 2.5. List of Symbols; References; CHAPTER 3. RAPID SOLIDIFICATION; 3.1. Introduction; 3.2. Methods of Rapid Solidification; 3.3. Constitution and Microstructure Formation by Rapid Solidification 3.4. Properties, Performance and Applications of Rapidly Solidified MaterialsReferences; Selected Bibliography; CHAPTER 4. MECHANICAL ALLOYING; 4.1. Introduction; 4.2. Nomenclature; 4.3. The Process of Mechanical Alloying; 4.4. Mechanism of Alloying; 4.5. Consolidation; 4.6. Synthesis of Non-Equilibrium Phases; 4.7. Powder Contamination; 4.8. Modeling; 4.9. Industrial Applications; 4.10. Concluding Remarks; References; CHAPTER 5. LASER PROCESSING; 5.1. Principles of Lasers; 5.2. Classifications of Laser Processing; 5.3. Analysis of the Laser Melting and Quenching Process; 5.4. Laser-Quenching

5.5. Laser Surface-Alloying and Cladding; 5.6. Laser-Annealing; 5.7. Laser-Beam Joining; 5.8. Conclusions; References; CHAPTER 6. THERMAL PLASMA PROCESSING; 6.1. Introduction; 6.2. Thermal Plasmas; 6.3. Processing of Materials; 6.4. Summary and Conclusions; Acknowledgments; References; CHAPTER 7. SPRAY-FORMING; 7.1. Introduction; 7.2. Principles; 7.3. Variations and Distinctions; 7.4. Applicability; 7.5. Non-Equilibrium Phenomena in Spray-Forming; 7.6. Concluding Remarks; Acknowledgments; References; CHAPTER 8. ION-MIXING; 8.1. Introduction; 8.2. Brief Description of Underlying Physics in Ion Mixing; 8.3. Thermodynamics of Alloy Phase Formation; 8.4. Experimentation of Ion-Mixing; 8.5. Amorphous Phase Formation; 8.6. Formation of Metastable Crystalline Alloys; 8.7. Interface-Generated Solid-State Vitrification in Systems with a Positive Heat of Formation; 8.8. Concluding Remarks; Acknowledgments; References; CHAPTER 9. PHYSICAL VAPOR DEPOSITION; 9.1. Introduction; 9.2. Development of PVD; 9.3. Deposition Methods; 9.4. Influence of Energy on Coatings; 9.5. Applications of PVD Coatings; 9.6. Future Trends; Acknowledgment; References; CHAPTER 10. CHEMICAL VAPOR DEPOSITION; 10.1. Introduction; 10.2. Gas-Phase Transport and Reactivity; 10.3. Solid Phase Formation; 10.4. Conclusions; References; CHAPTER 11. COMBUSTION SYNTHESIS; 11.1. Introduction; 11.2. Thermodynamic Considerations; 11.3. Kinetic Considerations; 11.4. Field-Activated Combustion Synthesis; 11.5. The "Azide" Process; 11.6. SHS Reactions in Synthesizing Ti_3SiC_2 ; 11.7. Controlled Reactions in the Ti-B Binary System; 11.8. Auto-Ignition Synthesis of Nanocrystalline Oxides; 11.9. Non-Equilibrium Effects; 11.10. Concluding Remarks; Acknowledgments; References; CHAPTER 12. NANOSTRUCTURED MATERIALS

Sommario/riassunto

The rapid technological developments during the later half of the 20th century have demanded materials that are stronger, capable of use at much higher temperatures, more corrosion-resistant, and much less expensive than those currently used. These demands become even more significant on the threshold of the new century and the millennium. Significant improvements in properties can only be achieved by processing the materials under far-from-equilibrium (or non-equilibrium) conditions. Several new processing technologies have been developed during the past few decades including, rapid solidifi

2. Record Nr.	UNICAMPANIAVAN00106308
Autore	Di Gaspare, Giuseppe
Titolo	Diritto dell'economia e dinamiche istituzionali / Giuseppe Di Gaspare
Pubbl/distr/stampa	Padova, : CEDAM, 2003
ISBN	978-88-13-24575-7
Descrizione fisica	XV, 238 p. ; 24 cm.
Disciplina	343.4507
Soggetti	Economia - Diritto pubblico
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia