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| Nota di contenuto | Cover; Title Page; Copyright; Contents; About the Editors; List of Contributors; Series Preface; Preface; Chapter 1 What is a Nanoimprint?; References; Chapter 2 Nanoimprint Lithography: Background and Related Techniques; 2.1 History of Material Processing: Polymer Processing; 2.2 Products with Microstructure and Nanostructure; 2.3 Technology for Making Micro- and Nanostructures; References; Chapter 3 Nanopattern Transfer Technology of Thermoplastic Materials; 3.1 Behavior of Thermoplastic Materials; 3.1.1 Thermoplastics; 3.1.2 Basis of Viscoelasticity and Rheology 3.1.3 Measurement of Rheology 3.1.4 Physical Properties of Viscoelastic |

Materials and the Temperature-Time Superposition Principle; 3.1.5 Materials Design for Realizing Nanoimprints; 3.2 Applicable Processes Used for Nanopattern Transfer; 3.2.1 Introduction of Injection Molding Process; 3.2.2 Problems of the Injection Molding Process; 3.2.3 Advantages of the Thermal Imprinting Process; 3.3 Pattern Transfer Mechanism of Thermal Cycle NIL; 3.3.1 Introduction of Thermal Imprinting Process; 3.3.2 In-situ Observation of Thermal Imprinting Process

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6.1 Advanced Nanoimprinting Technologies

Sommario/riassunto

Nanoscale pattern transfer technology using molds is a rapidly advancing area and one that has seen much recent attention due to its potential for use in nanotechnology industries and applications. However, because of these rapid advances, it can be difficult to keep up with the technological trends and the latest cutting-edge methods. In order to fully understand these pioneering technologies, a comprehensive understanding of the basic science and an overview of the techniques are required. Nanoimprint Technology: Nanotransfer for Thermoplastic and Photocurable Polymers covers
