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Nota di bibliografia	Includes bibliographies and index.
Nota di contenuto	Synthesis and characterization of ceramic hollow nanocomposites and nanotraps -- Recent advances on preparation, properties, and applications, polyurathene nanocomposites -- Preparation, characterization, and properties of organoclays, carbon nanofibers and carbon nanotubes based polymer nanocomposites -- Mechanical and wear properties of multi-scale phase reinforced composites -- Modeling mechanical properties of nanocomposites -- Polyaniline derivates and carbon nanotubes and their characterization.
Sommario/riassunto	Nanocomposites are currently defined "as a multiphase solid material where one of the phases has one, two or three dimensions of less than 100 nanometers or structures having nano-scale repeat distances between the different phases that make up the material". The use of nanocomposites with polymer, metal or ceramic matrices has increased in various areas of engineering and technology due to their special properties, with applications in bioengineering, battery cathodes, automotives, sensors and computers, as well other advanced industries. The present volume aims to provide recent information on nanocomposites (materials manufacturing and engineering) in six

chapters. The chapter 1 of the book provides information on synthesis and characterization of ceramic hollow nanocomposites and nanotraps. Chapter 2 is dedicated to recent advances on preparation, properties and applications polyurethane nanocomposites. Chapter 3 described preparation, characterization and properties of organoclays, carbon nanofibers and carbon nanotubes based polymer nanocomposites. Chapter 4 contains information on mechanical and wear properties of multi-scale phase reinforced composites. Chapter 5 described modeling mechanical properties of nanocomposites Finally, chapter 6 is dedicated to polyaniline derivatives and carbon nanotubes and their characterization. This book is the essential reference for academics, materials and physics researchers, materials, mechanical and manufacturing engineers, and professionals in nanocomposite-related industries.
