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Disciplina	620.118 543.6
Soggetti	Materials - Analysis Polymers Spectrum analysis Surfaces (Technology) Thin films Condensed matter Characterization and Analytical Technique Spectroscopy Surfaces, Interfaces and Thin Film Condensed Matter Physics
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Note generali	Includes index.
Nota di contenuto	(Nano-)Composite Materials – An introduction -- Part I. Fundamentals -- Fundamentals of dielectric spectroscopy in polymer nanocomposites -- Dynamics of polymer bridges in polymer nanocomposites through a combination of dielectric spectroscopy and rheology -- Molecular mobility in nanocomposites based on renewable semicrystalline polyesters -- Dynamics in polymer nanocomposites – From conventional to self-suspended hybrid systems -- Part II. Special Systems -- Polymer composites with molecular fillers: Microscopic views into supramolecular reinforcement -- Dynamics of hyperbranched polymers under severe confinement in intercalated nanocomposites -- Part III. Industrial Applications -- Interfacial effects on the dielectric properties of elastomer composites and

nanocomposites -- Microstructure and segmental dynamics of industrially relevant polymer nanocomposites -- Filler networks of carbon allotropes of different shape and dimensions in a polymer matrix -- Epoxy-based Nanocomposites – What can be learned from dielectric and calorimetric investigations?

Sommario/riassunto

The book presents recent developments in the field of composites, investigated by Broadband Dielectric Spectroscopy (BDS) and sheds a special focus on nanocomposites. This volume compares the results obtained by BDS with data from other methods like hyphenated calorimetry, dynamical-mechanical spectroscopy, NMR spectroscopy and neutron scattering. The addressed systems range from all kinds of model systems, such as polymers filled with spherical silica particles, advanced materials such as polymers with molecular stickers or hyperbranched polymer-based matrices to industrially significant systems, like epoxy-based materials. The book offers an excellent insight to a valuable application of dielectric spectroscopy and it is a helpful guide for every scientist who wants to study dynamics in composite materials.