

1. Record Nr.	UNINA9910254141303321
Titolo	Designing of Elastomer Nanocomposites: From Theory to Applications / / edited by Klaus Werner Stöckelhuber, Amit Das, Manfred Klüppel
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-47696-3
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XII, 402 p.)
Collana	Advances in Polymer Science, , 0065-3195 ; ; 275
Disciplina	678
Soggetti	Polymers Materials science Condensed matter Ceramics Glass Composite materials Polymer Sciences Characterization and Evaluation of Materials Condensed Matter Physics Ceramics, Glass, Composites, Natural Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The extended non-affine tube model for crosslinked polymer networks: A summary of its physical basics, implementation and application to thermo-mechanical finite element analyses -- Reinforcement of rubber and filler network dynamics at small strains -- Multiscale Contact Mechanics with Application to Seals and Rubber Friction on Dry and Lubricated Surfaces -- Multiscale modeling approach to dynamic-mechanical behavior of elastomer nanocomposites -- Networks - from rubbers to food -- Nanostructured Ionomeric Elastomers -- Graphene based elastomer nanocomposites: Functionalization techniques, morphology and physical properties -- Characterization and Application of Graphene Nano-Platelets in Elastomers -- The tearing energy as fracture mechanical quantity for elastomers.

Sommario/riassunto

The series *Advances in Polymer Science* presents critical reviews of the present and future trends in polymer and biopolymer science. It covers all areas of research in polymer and biopolymer science including chemistry, physical chemistry, physics, material science. The thematic volumes are addressed to scientists, whether at universities or in industry, who wish to keep abreast of the important advances in the covered topics. *Advances in Polymer Science* enjoys a longstanding tradition and good reputation in its community. Each volume is dedicated to a current topic, and each review critically surveys one aspect of that topic, to place it within the context of the volume. The volumes typically summarize the significant developments of the last 5 to 10 years and discuss them critically, presenting selected examples, explaining and illustrating the important principles, and bringing together many important references of primary literature. On that basis, future research directions in the area can be discussed. *Advances in Polymer Science* volumes thus are important references for every polymer scientist, as well as for other scientists interested in polymer science - as an introduction to a neighboring field, or as a compilation of detailed information for the specialist. Review articles for the individual volumes are invited by the volume editors. Single contributions can be specially commissioned. Readership: Polymer scientists, or scientists in related fields interested in polymer and biopolymer science, at universities or in industry, graduate students.
