Polymer Morphology: Principles, Characterization, and Processing

Qipeng Guo

With a focus on structure-property relationships, this book describes how polymer morphology affects properties and how scientists can modify them. The book covers structure development, theory, simulation, and processing; and discusses a broad range of techniques and methods.

• Provides an up-to-date, comprehensive introduction to the principles and practices of polymer morphology
• Illustrates major structure types, such as semicrystalline morphology, surface-induced polymer crystallization, phase separation, self-assembly, deformation, and surface topography
• Covers a variety of polymers, such as homopolymers, block copolymers, polymer thin films, polymer blends, and polymer nanocomposites
• Discusses a broad range of advanced and novel techniques and methods, like x-ray diffraction, thermal analysis, and electron microscopy and their applications in the morphology of polymer materials
ABOUT THE AUTHOR

Qipeng Guo, DSc, DEng, is the chair professor in polymer science and technology at Deakin University, Australia, where he was awarded a Personal Chair in recognition of his distinguished achievements and international reputation in polymer research, involving both the fundamental principles in polymer science and the development of new polymer materials. He is a Fellow of The Royal Society of Chemistry.

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