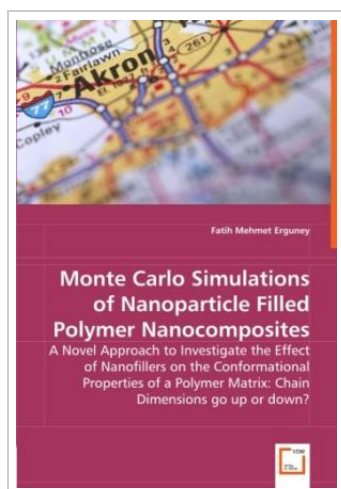



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Monte Carlo Simulations of Nanoparticle Filled Polymer Nanocomposites - A Novel Approach to Investigate the Effect of Nanofillers on the Conformational Properties of a Polymer Matrix: Chain Dimensions Go Up or Down?

By Fatih Mehmet Erguney

VDM Verlag. Paperback. Condition: New. 192 pages. Dimensions: 8.8in. x 6.0in. x 0.5in. In the last decade, nanofiller particles have prompted much attention and become a developing field in polymer processing applications. A particle size at nano scale offers an enormous amount of surface area and a great dispersion behavior. Thus, the use of nanofillers is very promising so as to improve the physical properties more effectively than conventional type of fillers. The change in such properties can be related to the subsequent conformational changes, but there is a big controversy for the conformational behavior of polymer chains when perturbed by nanoparticles. The controversy involves the question of whether dimensions go up or down in the presence of energetically neutral filler particles. A new generation of simulation technique has been developed in order to incorporate realistic nanofillers in the MC simulations. Most importantly, a realistic nanoparticle should be mobile, even more mobile than matrix chains actually. In addition, the particles in the polymer matrix must be well-dispersed while having true surface roughness. By this technique, it is possible to generate realistic nanoparticles and simulate them in the presence of a polymer matrix. This item ships from multiple locations. Your book may...



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