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**Sinopsis**

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Discovered in the twentieth century, carbon nanotubes (CNT) were an integral part of science and industry by the beginning of the twenty first century, revolutionizing chemistry, physics, and materials science. More recent advances in carbon nanotube production methods have resulted in a tremendous push to incorporate CNTs into polymer matrices. Although many advances have been made, two major obstacles continue unresolved: the enhancement of interfacial adhesion between CNTs and polymer matrix, and the improvement of dispersion of CNTs in polymers.

Both substantial original contributors to the field, the authors present Carbon Nanotubes for Polymer Reinforcement, the first monograph on various conventional and innovative techniques to disperse and functionalize carbon nanotubes for polymer reinforcement, elegantly explaining the basic sciences and technologies involved in those processes. Topics covered include:

Use of CNTs in fabricating novel polymer composites
Principles and mechanisms behind CNT dispersion and functionalization
Methods for the functionalization and dispersion of CNTs in polymer matrices
Effects of CNTs on functional and mechanical properties of polymer composites
Optimization of CNT/polymer nanocomposite fabrication

Carbon Nanotubes for Polymer Reinforcement is a comprehensive treatment and critical review of the new class of polymer nanocomposites, and points to areas of future developments. Composites engineers, scientists, researchers, and students will find the basic knowledge and technical results contained herein informative and useful references for their work, whether for advanced research or for design and manufacture of such composites.