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Autore	Rahmandoust Moones
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Sommario/riassunto	This volume presents the characterization methods involved with carbon nanotubes and carbon nanotube-based composites, with a more detailed look at computational mechanics approaches, namely the finite element method. Special emphasis is placed on studies that consider the extent to which imperfections in the structure of the nanomaterials affect their mechanical properties. These defects may include random distribution of fibers in the composite structure, as well as atom vacancies, perturbation and doping in the structure of individual carbon nanotubes.