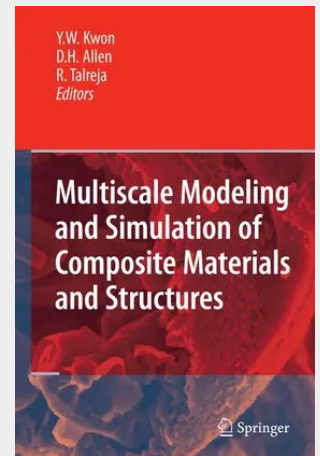


Multiscale Modeling and Simulation of Composite Materials and Structures

Researchers are interested in the development of modeling methods applied to predicting the atomistic, microscopic and macroscopic response of composite materials under stress and hostile environment. Material behaviors at the macroscale level are controlled by their characteristics at lower scale levels. This fact is even more significant for composite materials. As a result, in order to design and analyze composite structures as well as new composite materials, it is necessary to model material behaviors at different length scales and to couple them. This book presents the state of the art in multiscale modeling and simulation techniques for composite materials and structures. It focuses on the structural and functional properties of engineering composites and the sustainable high performance of components and structures. The multiscale techniques can be also applied to nanocomposites which are important application areas in nanotechnology.

This book will provide useful information for engineers for better design and analysis of composite structures. It will also serve as an invaluable reference for researchers.

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