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| | Soggetti | Nanotechnology<br>Materials science<br>Engineering—Materials<br>Characterization and Evaluation of Materials<br>Materials Engineering |
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| | Livello bibliografico | Monografia |
| | Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| | Nota di contenuto | Multiscale modeling of nanoreinforced composites -- Piezoelectric response at nanoscale -- Nanoscale mechanical characterization of 1D and 2D materials with application to nanocomposites -- Effects of nano porosity on the mechanical properties and applications of aerogels in composite structures -- Smart fuzzy fiber-reinforced piezoelectric composites -- Composite nanowires for room-temperature mechanical and electrical bonding -- Recent developments of multiscale thermo-mechanical analysis of nano-composites -- Magnetoelectric coupling and overall properties of a class of multiferroic composites -- Snap-through buckling of micro/nanobeams in bistable micro/nanoelectromechanical systems. |
| | Sommario/riassunto | This book covers nanocomposite materials possessing a broad range of multifunctionality. It is intended to elucidate highly original developments from recent research and developments of these critical newly developed engineered materials, covering multiscale modeling, molecular dynamics, finite element method, atomistic based continuum, synthesis and characterization, condition health monitoring, spectroscopic characterization techniques, self-lubricating |

materials, and conducting polymers. It is a compilation of the recent efforts of some of the most eminent researchers in the world. Providing a range of perspectives from theory and applications, Advances in Nanocomposites: Modeling, Characterization Applications is ideal for engineers, physicists, and materials scientists in academia, defence organisations and industry.