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Titolo	Handbook of Damage Mechanics [[electronic resource]] : Nano to Macro Scale for Materials and Structures // edited by George Z. Voyiadjis
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Disciplina	531
Soggetti	Mechanics Mechanics, Applied Structural materials Nanotechnology Ceramics Glass Composites (Materials) Composite materials Solid Mechanics Structural Materials Theoretical and Applied Mechanics Classical Mechanics Ceramics, Glass, Composites, Natural Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Damage Model for Metals and Composites -- Nonlocal Damage Model for Metals and Composites -- Continuum Damage-Healing Mechanics -- Introduction: Micromechanics Motivated Continuum Damage Mechanics and Micromechanical Damage Mechanics of Composite Materials -- Micromechanical Damage Models for Brittle Solids with Many Randomly Distributed Microcracks -- Foundation on Micromechanics of Particle or Fiber Reinforced Composites -- Micromechanical Probabilistic Damage Mechanics of Particle Reinforced Composites Considering Progressive Particle Debonding -- Probabilistic

Micromechanical Damage Mechanics of Continuous Fiber Reinforced Composites Considering Progressive Fiber Debonding --
Micromechanical Damage Mechanics of Particle Reinforced Composites Considering Particle or fiber Cracking -- 3-D Statistical
Micromechanical Damage Mechanics of Composites with Many Randomly Located Interacting Microcracks and Inclusions --
Micromechanical Damage Mechanics of Functionally Graded Composites Considering Progressive Particle Debonding --
Thermomechanical constitutive and damage models for airfield concrete pavement under transient high temperature loading --
Conclusions and Future Directions -- Particle Modeling of Damage Phenomena -- Fractals at Elastic-Plastic-Brittle Transitions -- Scale-Dependent Homogenization of Random Microstructures -- Discrete Models of Statistical Damage Mechanics (SDM): Rational Theories -- Phenomenology of Dynamical Problems -- Fundamentals of Nuclear Damage -- Experimental Assessment Materials Tolerance to Nuclear Damage -- A Review of Hydrogen Embrittlement.

Sommario/riassunto

Macro to Nano Damage for Materials and Structures provides a comprehensive reference for the topics of damage and healing mechanics. Appropriate for an audience at of graduate students and faculty, researchers, and professionals in the fields of Mechanical Engineering, Civil Engineering, Aerospace Engineering, Materials Science, and Engineering Mechanics, the volume covers all types of materials that the engineers may encounter including metals, composites, ceramics, polymers, biomaterials, and nanomaterials. The internationally recognized team of contributors employ a consistent and systematic approach offering readers a user friendly reference ideal for frequent consultation.
