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	Nota di contenuto	From the Contents: Hierarchical architecture and multi-scale modeling of bio-inspired stimuli-responsive polymer nano-composites -- A multiscale modeling approach of waves in materials with inherent microstructure.- Coordinate-free derivation of anisotropic plate and shell models by asymptotic analysis: Coordinate-free derivation of anisotropic plate and shell models by asymptotic analysis.- A micromechanics-based model for shear-coupled grain boundary migration in bicrystals -- Preliminary application to higher gradient continua and gravitation.- Grain boundary modelling using a theory of dislocation and disclination fields.
	Sommario/riassunto	This volume presents contributions describing the micro- and macro-behaviours, new existence and uniqueness theorems, the formulation of multi-scale problems, etc. and now it is time to ponder again the state of matter and to discuss new trends and applications. The main focus is directed on the following items - Modelling and simulation of materials with significant microstructure, - Generalized continua as a result of multi-scale models, - Multi-field actions on materials resulting in generalized material models, and - Comparison with