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Nota di contenuto	to Doublet Mechanics -- Doublet Thermomechanics -- Multi-component Constitutive Equations -- Comparison with Other Theories -- Multi-scale, Plane Waves -- Reflection of Plane Waves -- Surface Waves — Difference Equations -- Isotropic Plane Elastostatics -- Multi-scale Solutions -- A New Direction: Nanotubes.
Sommario/riassunto	The recently proposed, fully multi-scale theory of doublet mechanics offers unprecented opportunities to reconcile the discrete and continuum representations of solids while maintaining a simple analytical format and full compatibility with lattice dynamics and continuum mechanics. In this monograph, a self-contained account of the state of the art in doublet mechanics is presented. Novel results in the elastodynamics of microstructured media are reported, including the identification of a new class of dispersive surface waves, and the presentation of methods for the experimental determination of the essential microstructural parameters. The relationships between

doublet mechanics, lattice dynamics, and continuum theories are examined, leading to the identification of the subject areas in which the use of doublet mechanics is most advantageous. These areas include the analysis of domains as diverse as micro-electro-mechanical systems (MEMS), granular and particulate media, nanotubes, and peptide arrays.