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Nota di contenuto	X-ray tomography experiments on sand at different scales -- Dense, inhomogeneous, granular shearing -- The effective stress of unsaturated soils - thermodynamic connections to intrinsic and measured suctions -- Notes on constitutive relations for solid with nano-pores -- Hyperplasticity: from Micro to Macro -- Wave propagation and elasticity in granular soils: a numerical approach for a micromechanical perspective -- Macroscale yield criteria for geomaterials -- Biological driven phase transitions in fully or partly saturated porous media - a multi-component FEM simulation based on the Theory of Porous Media -- Elasticity and mechanical behaviour of granular materials: some insights from numerical studies of simple systems -- Multiscale phenomena in Continuum Mechanics: Mesoscopic justification of Rational Extended Thermodynamics of Gases with internal structure -- A multi-scale continuum view of granular flows.
Sommario/riassunto	This contributed volume provides an up-to-date overview of the mechanics of granular materials, ranging from sparse media to soils. With chapters exploring state-of-the-art theoretical, experimental, and applied trends in the study of granular matter in various states, readers will be motivated to learn about the current challenges and potential

avenues of exploration in this active area of research. Including a variety of perspectives, this volume will be a valuable reference for audiences in a number of fields. Specific topics covered include: X-ray tomography techniques for analyzing sand Evaluation of effective stress in unsaturated soils Hyper-plasticity Wave propagation in granular systems Partly saturated porous media Multi-scale approaches to the dynamics of sparse media Views on Microstructures in Granular Materials is an ideal resource for PhD students and researchers in applied mathematics, solid-state physics, civil engineering, and mechanical engineering.