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Altri autori (Persone)	ElvinNiell ErturkAlper
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Nota di contenuto	Introduction and Methods of Mechanical Energy Harvesting -- Broadband Vibration Energy Harvesting Techniques -- MEMS Electrostatic Energy Harvesters with Nonlinear Springs -- Broadband Energy Harvesting from a Bistable Potential Well -- Plucked Piezoelectric Bimorphs for Energy Harvesting -- Energy Harvesting with Vibrating Shoe-Mounted Piezoelectric Cantilevers -- Role of Stiffness Nonlinearities in the Transduction of Energy Harvesters Under White Gaussian Excitations -- Random Excitation of Bistable Harvesters -- Energy Harvesting from Fluids using Ionic Polymer Metal Composites -- Flow-Induced Vibrations for Piezoelectric Energy Harvesting -- Airfoil-Based Linear and Nonlinear Electroaeroelastic Energy Harvesting -- Acoustic Energy Harvesting using Sonic Crystals -- Power Conditioning Techniques for Energy Harvesting -- Asynchronous Event-Based Self-Powering, Computation and Data-Logging -- Vibration-Based Energy-Harvesting Integrated Circuits -- Stretching the Capabilities of Energy Harvesting: Electroactive Polymers Based on Dielectric Elastomers -- Materials and Devices for MEMS Piezoelectric Energy Harvesting -- Nonlinear Vibration Energy Harvesting with High Permeability Magnetic Materials. .
Sommario/riassunto	Advances in Energy Harvesting Methods presents a state-of-the-art

understanding of diverse aspects of energy harvesting with a focus on: broadband energy conversion, new concepts in electronic circuits, and novel materials. This book covers recent advances in energy harvesting using different transduction mechanisms; these include methods of performance enhancement using nonlinear effects, non-harmonic forms of excitation and non-resonant energy harvesting, fluidic energy harvesting, and advances in both low-power electronics as well as material science. The contributors include a brief literature review of prior research with each chapter for further reference. This book covers: Multiphysics problems such as fluidic energy harvesting Nonlinear effects for performance enhancement, for example, broadband energy harvesting Examples of realistic problems of energy harvesting, such as from random ambient vibration Recent advances in low-power circuitry, such as efforts in ultra-low power analog circuit design as well as recent advances in novel energy harvesting materials and fabrication techniques Advances in Energy Harvesting Methods is an ideal book for students, faculty, and practicing engineers in mechanical, electrical, civil, and aerospace engineering as well as material science. .