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Soggetti	Energy harvesting Renewable energy sources Nanotechnology Power electronics Tribology Corrosion and anti-corrosives Coatings Energy Harvesting Renewable and Green Energy Power Electronics, Electrical Machines and Networks Tribology, Corrosion and Coatings
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Triboelectrification -- Part A: Fundamental Operation Modes -- Triboelectric Nanogenerator: Vertical Contact-Separation Mode -- Triboelectric Nanogenerator: Lateral Sliding Mode -- Triboelectric Nanogenerator: Single-Electrode Mode -- Triboelectric Nanogenerator: Freestanding Triboelectric-Layer Mode -- Theoretical Modeling of Triboelectric Nanogenerators -- Figure of Merits for Quantifying Triboelectric Nanogenerators -- Part B: Applications as a Sustainable Power Source -- Harvesting Body Motion Energy -- Harvesting Vibration Energy -- Harvesting Wind Energy -- Harvesting Large-Scale Blue Energy -- Hybrid Cell Composed of Triboelectric Nanogenerator -- Applicatons in Self-Powered Systems and Processes -- Self-Powered

	Sensing for Human-Machine Interface -- Self-Powered Sensing for Vibration and Biomedical Monitoring -- Self-Powered Sensing for Tracking Moving Objects -- Self-Powered Sensing for Chemical and Environmental Detection.
Sommario/riassunto	This book introduces an innovative and high-efficiency technology for mechanical energy harvesting. The book covers the history and development of triboelectric nanogenerators, basic structures, working principles, performance characterization, and potential applications. It is divided into three parts: Part A illustrates the fundamental working modes of triboelectric nanogenerators with their prototype structures and theoretical analysis; Part B and Part C introduce two categories of applications, namely self-powered systems and self-powered active sensors. The book will be an ideal guide to scientists and engineers beginning to study triboelectric nanogenerators or wishing to deepen their knowledge of the field. Readers will be able to place the technical details about this technology in context, and acquire the necessary skills to reproduce the experimental setups for fabrication and measurement.