1. Record Nr. UNINA9910746973403321

Autore	Anveshkumar Nella
Titolo	Energy Harvesting Trends for Low Power Compact Electronic Devices / / edited by Anveshkumar Nella, Anirban Bhowmick, Chandan Kumar, Maheswar Rajagopal
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031359651 3031359658
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (227 pages)
Collana	EAI/Springer Innovations in Communication and Computing, , 2522-8609
Altri autori (Persone)	BhowmickAnirban KumarChandan RajagopalMaheswar
Disciplina	621.31
Soggetti	Energy harvesting Electronics Internet of things Renewable energy sources Energy Harvesting Electronics and Microelectronics, Instrumentation Internet of Things Renewable Energy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Energy harvesting techniques and trends in applications -- Material and components selection for efficient energy harvesting -- RF and millimeter wave energy harvesting techniques and applications -- Energy harvesting systems for agriculture needs -- Acoustic signal energy harvesting techniques and relevant systems -- Bio-medical devices adopting energy harvesting schemes -- Wireless sensor networks, smart electronic gadget energy needs and energy harvesting systems -- Piezo energy harvesting and application prospects -- Energy harvesting systems for military, space and defence applications -- Mechanical energy harvesting scheme and implementation aspects,

applications -- Fluid based energy harvesting systems for electronic appliances -- Energy harvesting schemes for home appliances, vehicles, chargers -- Light energy harvesting systems and applications -- Thermal energy harvesting prospects, systems and applications -- Conclusion.

Sommario/riassunto

This book focuses on the numerous energy harvesting techniques and their system implementation towards the fulfilment of energy requirements in compact electronic devices. These cover a wide range of applications in portable devices, bio-medical services, agriculture needs, mechanical systems, sensor networks, automobiles, food sector, home appliances, industry needs, etc. The authors detail energy harvesting methods using the latest technologies in acoustics, bio-chemical, thermal, artificial light, fluid flow, vibrations, EM energy, RF energy, piezoelectric, electrostatic, photovoltaic, thermoelectric, hybrid harvesting, ultrasonic, infrared, light, wind, and solar. The book is intended for researchers, academics, professionals, and students in energy harvesting. Covers a wide variety of energy harvesting techniques, implementation, and study; Presents enormous electronic device applications, power requirements, and solutions; Includes discussionon efficient energy harvesting materials, component selection and implementation.