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Titolo	Rechargeable Batteries : Materials, Technologies and New Trends / / edited by Zhengcheng Zhang, Sheng Shui Zhang
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Descrizione fisica	1 online resource (710 p.)
Collana	Green Energy and Technology, , 1865-3529
Disciplina	541.37 621.042 621.3126 621.3815
Soggetti	Energy storage Electrochemistry Electronic circuits Energy Storage Electronic Circuits and Devices Circuits and Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Challenges of key materials for rechargeable batteries -- Olivine-based cathode materials -- Polyanion compounds as cathode materials for Li-ion batteries -- Carbonaceous anode materials -- Lithium titanate-based anode materials -- Alloy-based anode materials -- Electrolytes for lithium and lithium-ion batteries -- Additives for functional electrolytes of Li-ion batteries -- Phosphonium-based ionic liquids -- Solid-state lithium ion electrolytes -- Manufacture and surface modification of polyolefin separator -- Microstructurally composed nanoparticle assemblies as electroactive materials for lithium-ion battery electrodes -- 2D and 3D imaging of Li-ion battery materials using synchrotron radiation sources -- Hazard characterizations of Li-ion batteries: Thermal runaway evaluation by calorimetry methodology -- Li-ion battery pack and applications -- High voltage cathode materials -- Non-aqueous metal-air batteries: past, present, and

	future -- Oxygen redox catalyst for rechargeable lithium-air battery -- Aqueous lithium-air batteries -- Lithium-sulfur battery -- Why Grignard’s century old Nobel Prize sparks your curiosity -- Organic cathode materials for rechargeable batteries -- Recent developments and trends in redox flow batteries.
Sommario/riassunto	This book updates the latest advancements in new chemistries, novel materials and system integration of rechargeable batteries, including lithium-ion batteries and batteries beyond lithium-ion, and addresses where the research is advancing in the near future in a brief and concise manner. The book is intended for a wide range of readers from undergraduates, postgraduates to senior scientists and engineers. In order to update the latest status of rechargeable batteries and predict near research trend, we plan to invite the world leading researchers who are presently working in the field to write each chapter of the book. The book covers not only lithium-ion batteries but also other batteries beyond lithium-ion, such as lithium-air, lithium-sulfur, sodium-ion, sodium-sulfur, magnesium-ion, and liquid flow batteries. .