1. Record Nr. UNINA9910841866803321

Titolo	Energy Materials and Devices : Proceedings of E-MAD 2022 / / edited by Ambesh Dixit, Vijay K. Singh, Shahab Ahmad
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9990-09-2
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (360 pages)
Collana	Advances in Sustainability Science and Technology, , 2662-6837
Disciplina	621.381534
Soggetti	Energy storage Materials Catalysis Force and energy Mechanical and Thermal Energy Storage Materials for Devices Materials for Energy and Catalysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Na-rich layered cathode materials for high energy sodium-ion batteries: A computational study -- In-Situ X-ray diffraction studies of battery electrode materials for microscopic understanding the phase stability and performance correlation -- In-Situ Raman Characterization of Electrode Materials for Rechargeable Li/Na ion batteries Mo2C: A potential anode material for lithium and sodium ion battery -- Diffusion and ion-ion correlations in EC-LiTFSI electrolytes -- Photo-Enhanced Li-Ion Batteries based on Conversion Type Hematite Phase Iron Oxide Nanostructures -- Experimental study on dead-lithium formation in lithium-ion battery -- Cost-effective Aluminum-Air Battery with enhanced performance using V2O5 catalyst together with NH4VO3 Additive in an alkaline medium -- Low-cost Aqueous Rechargeable Iron-ion battery in Ambient conditions using C3N4-based cathode -- High-performance aqueous asymmetric supercapacitor based on hybrid electrodes -- Exfoliated graphite as a potential host for ZnONanorods- based Symmetric Flexible Supercapacitor -- SrTiO3/CNT/PANI Ternary Composite for

Supercapacitor Applications -- Enhance the Electrochemical parameters of Supercapacitor Using ZnO based Electrode Material -- Characterization and analysis of (1-x) Ba0.96Sr0.04Zr0.1Ti0.9O3–xNaNbO3: A study onStructural, Dielectric and Energy Storage Behaviour -- Recent Progress and Challenges in Hydrogen Storage Medium and Transportation for Boosting Hydrogen Economy -- A Comparative Review of Hydrogen Production by Membrane Water Electrolysis (MWE) Technologies -- Concentrated Solar Thermal-based Hydrogen Generation: Some Recent Findings and a Proposal for Experiment Setup.

Sommario/riassunto

This book is a collection of peer-reviewed best-selected research papers presented at the National Conference on Energy Materials and Devices (E-MAD 2022), organized by the Indian Institute of Technology Jodhpur, India, during 16–18 December 2022. The book focusses on the current state-of-the-art research and development in the field of lithium and beyond lithium-ion batteries as electrochemical energy storage devices for sustainable development to meet the energy storage needs. This includes the materials' design using computational approaches together with experimental advances targeting the next-generation energy storage materials and devices such as photo rechargeable batteries. In addition, the proceedings also focus simultaneously on green hydrogen energy generation, storage, and integration in fuel cells. It includes the catalytically active nanoengineered materials for hydrogen generation, functionalized hydrides and their composites for enhanced hydrogen storage together with their possible integration in fuel cells for their direct energy generation applications.