1. Record Nr. UNINA9910918601203321

Autore	Phogat Peeyush
Titolo	Electrochemical Devices : Principles to Applications / / by Peeyush Phogat, Shreya Sharma, Ranjana Jha, Sukhvir Singh
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819605279 9789819605262
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (336 pages)
Collana	Engineering Materials, , 1868-1212
Altri autori (Persone)	SharmaShreya JhaRanjana SinghSukhvir
Disciplina	621
Soggetti	Physics Electrochemistry Materials Detectors Nanotechnology Solid state physics Applied and Technical Physics Sensors and biosensors Nanoengineering Electronic Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Fundamentals of Electrochemistry -- Photoelectrochemical (PEC) Solar Cells -- Photoelectrochemical (PEC) Detectors -- Photoelectrochemical Water Splitting -- Electrochemical Sensors -- Electrochemical Capacitors: EDLCs and Pseudocapacitors -- Microstructural Aspects in Electrochemical Devices -- Future Perspectives and Challenges.
Sommario/riassunto	This book serves as a comprehensive guide for both beginners and researchers, offering insights into the diverse array of electrochemical devices and their intricate dependencies. It provides a comprehensive overview of electrochemical devices from fundamental principles to cutting-edge applications. By bringing together insights from materials

science, chemistry, physics, engineering, and beyond, it offers a holistic understanding of the underlying mechanisms, design strategies, and practical considerations associated with these devices. The book begins by exploring of the fundamental principles of electrochemistry, laying the groundwork for understanding electrochemical reactions, charge transfer processes, and device operation mechanisms. Building upon this foundation, it delves into various types of electrochemical devices, including solar cells, photodetectors, sensors, batteries, and more.