1. Record Nr. UNINA9910558694203321

Autore	Liu Kailong
Titolo	Data Science-Based Full-Lifespan Management of Lithium-Ion Battery : Manufacturing, Operation and Reutilization / / by Kailong Liu, Yujie Wang, Xin Lai
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-031-01340-9
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (277 p.) : illustrations (chiefly color)
Collana	Green Energy and Technology, , 1865-3537
Classificazione	COM018000TEC021000TEC031000
Altri autori (Persone)	WangYujie LaiXin
Disciplina	620.11 621.31242
Soggetti	Electric batteries Materials Catalysis Force and energy Engineering - Data processing Electric power production Batteries Materials for Energy and Catalysis Data Engineering Electrical Power Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Chapter 1. Introduction to Battery Full-Lifespan Management -- Chapter 2. Key Stages for Battery Full-Lifespan Management -- Chapter 3. Data Science-based Battery Manufacturing Management -- Chapter 4. Data Science-based Battery Operation Management I -- Chapter 5. Data Science-based Battery Operation Management II -- Chapter 6. Data Science-based Battery Reutilization Management -- Chapter 7. The Ways Ahead.
Sommario/riassunto	This open access book comprehensively consolidates studies in the rapidly emerging field of battery management. The primary focus is to

overview the new and emerging data science technologies for full-lifespan management of Li-ion batteries, which are categorized into three groups, namely (i) battery manufacturing management, (ii) battery operation management, and (iii) battery reutilization management. The key challenges, future trends as well as promising data-science technologies to further improve this research field are discussed. As battery full-lifespan (manufacturing, operation, and reutilization) management is a hot research topic in both energy and AI fields and none specific book has focused on systematically describing this particular from a data science perspective before, this book can attract the attention of academics, scientists, engineers, and practitioners. It is useful as a reference book for students and graduates working in related fields. Specifically, the audience could not only get the basics of battery manufacturing, operation, and reutilization but also the information of related data-science technologies. The step-by-step guidance, comprehensive introduction, and case studies to the topic make it accessible to audiences of different levels, from graduates to experienced engineers. .