The Institution of Engineering and Technology

July 2024

Electronics and Energy Storage:

An online reading list from the IET Library

These eBooks and eJournals, available via the IET Library, have been selected on the subjects of electronics and energy storage. They cover topics such as batteries, circuits, and electric vehicles.

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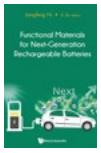
Contents

eBooks

Batteries



Functional Materials For Next-generation Rechargeable Batteries, Jiangfeng Ni and Li Lu. (2021). This book starts with principles and fundamentals of lithium rechargeable batteries, followed by their designs and assembly, and then focuses on the recent progress in the development of advanced functional materials.

Rechargeable Organic Batteries : Materials, Mechanisms, and Prospects, Yongzhu Fu et al. (2024). Rechargeable Organic Batteries is essential reading for electrochemists, materials scientists, organic chemists, physical chemists, and solid-state chemists working in the field.

Sodium-Ion Batteries : Technologies and Applications, Ji Xiaobo et al. (2024). An essential resource for materials scientists, inorganic and physical chemists, and all other academics, researchers, and professionals who wish to stay on the cutting edge of energy technology.

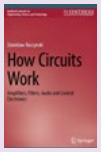
Circuits

A Practical Introduction to Electrical Circuits, John E. Ayers. (2024). Represents a fresh approach to the subject, which is compact and easy to use, yet offers a comprehensive description of the fundamentals.

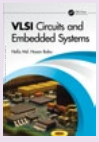
Microwave Active Circuit Analysis and Design, Clive Poole and Izzat Darwazeh. (2016). This book teaches the skills and knowledge required by today's RF and microwave engineer in a concise, structured, and systematic way.

EMC for Product Designers, Tim Williams. (2016). Provides all the key information needed to meet the requirements of the EMC compliance standards and shows how to incorporate EMC principles into the product design process.

Semiconductor Devices : Diodes, Transistors, Solar Cells, Charge Coupled Devices and Solid State Lasers, Amal Banerjee. (2024). This book examines in detail how a semiconductor device is designed and fabricated to satisfy best the requirements of the target application.



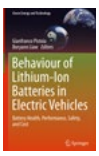
How Circuits Work : Amplifiers, Filters, Audio and Control Electronics, Stanislaw Raczynski. (2023). This book helps readers understand the basic concepts of electronic circuits.



VLSI Circuits and Embedded Systems, Hafiz Md. Hasan Babu. (2022). This book explores the designs of VLSI circuits and embedded systems and is ideal for core researchers, academicians, and students.

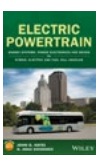
Electric Vehicles

AI Techniques for Renewable Source Integration and Battery Charging Methods in Electric Vehicle Applications, S. Angalaeswari. (2023). Covering key topics such as deep learning, artificial intelligence, and smart solar energy.



Behaviour of Lithium-Ion Batteries in Electric Vehicles : Battery Health, Performance, Safety, and Cost, Gianfranco Pistoia and Boryann Liaw. (2018). This book surveys state-of-the-art research on and developments in lithium-ion batteries for hybrid and electric vehicles.

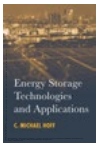
Battery Management Algorithm for Electric Vehicles, Rui Xiong. (2020). This book systematically introduces readers to the core algorithms of battery management system (BMS) for electric vehicles.



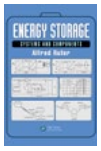
Electric Powertrain : Energy Systems, Power Electronics and Drives for Hybrid, Electric and Fuel Cell Vehicles, John G. Hayes and G. Abas Goodarzi. (2018). The resource is a structured textbook for the teaching of the fundamental theories and applications of energy sources, power electronics, and electric machines and drives.

General Energy Storage

Energy Storage for Power System Planning and Operation, Zechun Hu. (2020). An authoritative guide to large-scale energy storage technologies and applications for power system planning and operation.



Energy Storage Technologies and Applications, Michael C. Hoff. (2022). This book gives you a broad look at all different energy storage technologies, from the past and into the future and takes a look at the advantages and disadvantages of various technologies.



Energy Storage : Systems and Components, Alfred Rufer. (2018). This book will provide the technical community with an overview of the development of new solutions and products that address key topics in energy storage.

Smart Grids for Renewable Energy Systems, Electric Vehicles and Energy Storage Systems, Rajkumar Viral et al. (2022). This book covers analysis and modelling of the large-scale integration of renewable energy systems, electric vehicles, and energy storage systems.

eJournals

IET Circuits, Devices & Systems (publishes original research and review articles covering Circuit theory and design, circuit analysis and more.)

Circuits, Systems & Signal Processing (coverage ranges from mathematical foundations to practical engineering design.)

Electronics Letters (an internationally renowned peer-reviewed rapid-communication journal, which publishes short original research papers every two weeks.)

Journal of Mechatronics, Electrical Power & Vehicular Technology (publishes original research papers, review articles and case studies focused on vehicular technology.)

Electrical Materials and Applications (includes research on advanced energy storage materials.)

International Journal of Automotive Technology (covers all aspects of the field including thermal engineering, flow, structural & modal analysis, and vehicular electronics.)