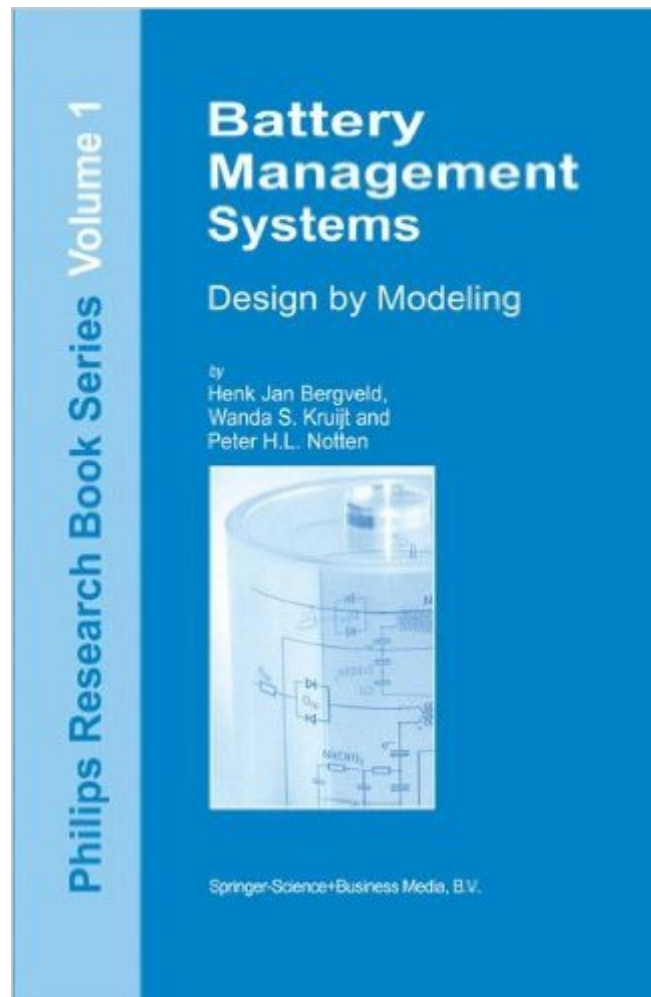


The book was found

Battery Management Systems: Design By Modelling (Philips Research Book Series)



Synopsis

Battery Management Systems - Design by Modelling describes the design of Battery Management Systems (BMS) with the aid of simulation methods. The basic tasks of BMS are to ensure optimum use of the energy stored in the battery (pack) that powers a portable device and to prevent damage inflicted on the battery (pack). This becomes increasingly important due to the larger power consumption associated with added features to portable devices on the one hand and the demand for longer run times on the other hand. In addition to explaining the general principles of BMS tasks such as charging algorithms and State-of-Charge (SoC) indication methods, the book also covers real-life examples of BMS functionality of practical portable devices such as shavers and cellular phones. Simulations offer the advantage over measurements that less time is needed to gain knowledge of a battery's behaviour in interaction with other parts in a portable device under a wide variety of conditions. This knowledge can be used to improve the design of a BMS, even before a prototype of the portable device has been built. The battery is the central part of a BMS and good simulation models that can be used to improve the BMS design were previously unavailable. Therefore, a large part of the book is devoted to the construction of simulation models for rechargeable batteries. With the aid of several illustrations it is shown that design improvements can indeed be realized with the presented battery models. Examples include an improved charging algorithm that was elaborated in simulations and verified in practice and a new SoC indication system that was developed showing promising results. The contents of Battery Management Systems - Design by Modelling is based on years of research performed at the Philips Research Laboratories. The combination of basic and detailed descriptions of battery behaviour both in chemical and electrical terms makes this book truly multidisciplinary. It can therefore be read both by people with an (electro)chemical and an electrical engineering background.

Book Information

Series: Philips Research Book Series (Book 1)

Hardcover: 295 pages

Publisher: Springer; 2002 edition (November 1, 2005)

Language: English

ISBN-10: 1402008325

ISBN-13: 978-1402008320

Product Dimensions: 6.1 x 0.8 x 9.2 inches

Shipping Weight: 1.4 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars [See all reviews](#) (1 customer review)

Best Sellers Rank: #2,096,653 in Books (See Top 100 in Books) #72 in [Books > Science & Math > Chemistry > Physical & Theoretical > Electrochemistry](#) #572 in [Books > Science & Math > Physics > System Theory](#) #828 in [Books > Science & Math > Chemistry > Industrial & Technical](#)

Customer Reviews

This book provides a great overview of battery chemistries, charging algorithms, and modeling techniques. If you are an engineer designing battery operated equipment or chargers, this is a great reference. It is starting to become a bit dated, due to the rapid advancement in battery technology and charging techniques, but it is still valuable.

[Download to continue reading...](#)

Battery Management Systems: Design by Modelling (Philips Research Book Series) Clay Modelling for Beginners: An Essential Guide to Getting Started in the Art of Sculpting Clay ~ (Clay Modelling | Clay Modeling | Clay Art) Provably Correct Systems: Modelling of Communication Languages and Design of Optimized Compilers (The McGraw-Hill International Series in Software) Database Systems: Design, Implementation, and Management (with Premium Web Site Printed Access Card) (Management Information Systems) Logic in Computer Science: Modelling and Reasoning about Systems Modelling the Human Impact on Nature: Systems Analysis of Environmental Problems Actuarial Modelling of Claim Counts: Risk Classification, Credibility and Bonus-Malus Systems California POST Exam Secrets Study Guide: POST Exam Review for the California POST Entry-Level Law Enforcement Test Battery (PELLETB) (Mometrix Secrets Study Guides) ASTB-E Secrets Study Guide: ASTB-E Test Review for the Aviation Selection Test Battery California POST Exam Study Guide: Test Prep for California Police Officer Exam (Post Entry-Level Law Enforcement Test Battery (PELLETB)) Yankee Artillerymen: Through the Civil War With Eli Lilly's Indiana Battery The Powerhouse: Inside the Invention of a Battery to Save the World ASVAB Secrets Study Guide: ASVAB Test Review for the Armed Services Vocational Aptitude Battery Klutz Battery Science Make Widgets That Work and Gadgets That Go Qualitative Research Design: An Interactive Approach (Applied Social Research Methods) Real-Time Systems: Design Principles for Distributed Embedded Applications (Real-Time Systems Series) Biologically Inspired Algorithms for Financial Modelling (Natural Computing Series) Structure and Function of a Chihuahuan Desert Ecosystem: The Jornada Basin Long-Term Ecological Research Site (Long-Term Ecological Research Network Series) FBA: Product Research: Complete Expert Guide: How to Search Profitable Products to Sell on (FBA, Product Research, How to Find the Best Products to Sell on Book 1) Relational

Database Design Clearly Explained, Second Edition (The Morgan Kaufmann Series in Data Management Systems)

[Dmca](#)