

All Databases

Select a Database

Web of Science

Additional Resources

Search | Search History | Marked List (0)

ALL DATABASES

<< Back to results list

Record 1 of 21

Record from Web of Science®

Online State-of-Health Assessment for Battery Management Systems

Full Text | Print | E-mail | Add to Marked List | Save to EndNote Web | Save to EndNote, RefMan, ProCite | more options

Author(s): Micea MV (Micea, Mihai Victor)¹, Ungurean L (Ungurean, Lucian)¹, Carstoiu GN (Carstoiu, Gabriel N.)¹, Groza V (Groza, Voicu)²

Source: IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT **Volume:** 60 **Issue:** 6 **Pages:** 1997-2006 **Published:** JUN 2011

Times Cited: 0 **References:** 25 [Citation Map](#)

Abstract: Battery-powered embedded systems have known a rapid evolution in recent years, as nickel-metal hydride (Ni-MH) battery technology has enabled important reductions in size and proportional increases in total capacity over the older nickel-cadmium (Ni-Cd) and lead-acid battery types. This paper addresses the problem of state-of-health (SoH) estimation and prediction for use in resource-constrained Ni-MH-battery-powered embedded systems. We propose a novel SoH prediction methodology, presenting both a theoretical analysis of the estimation algorithm and the detailed description of hardware and software implementation. Two versions of estimation algorithms are proposed, along with the analysis of their performances in terms of prediction accuracy and required processing power, as the SoH prediction is designed to run online, being part of an embedded battery management system.

Document Type: Article

Language: English

Author Keywords: Battery management; battery-powered device; nickel-metal hydride (Ni-MH); state-of-health (SoH) prediction

KeyWords Plus: SMART SENSORS; CHARGER; POWER

Reprint Address: Micea, MV (reprint author), Politehn Univ Timisoara, Dept Comp & Software Engn, Timisoara 300223, Romania

Addresses:

- 1. Politehn Univ Timisoara, Dept Comp & Software Engn, Timisoara 300223, Romania
- 2. Univ Ottawa, Sch Informat Technol & Engn, Ottawa, ON K1N 6N5 Canada

E-mail Addresses: mihai.micea@cs.upt.ro

Funding Acknowledgement:

Funding Agency	Grant Number
Romanian Ministry of Education and Research	PNCDI II ID-22/2007-2010

[\[Show funding text\]](#)

Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 445 HOES LANE, PISCATAWAY, NJ 08855-4141 USA

Cited by: 0

This article has been cited 0 times (from Web of Science).

[Create Citation Alert](#)

Related Records:

Find similar records based on shared references (from Web of Science).

[\[view related records \]](#)

References: 25

View the bibliography of this record (from Web of Science).

Additional information

- [View the journal's impact factor \(in Journal Citation Reports\)](#)

View this record in other databases:

- [View citation data \(in Web of Science\)](#)

IDS Number: 763EU

ISSN: 0018-9456

DOI: 10.1109/TIM.2011.2115630

[<< Back to results list](#)

◀ Record 1 of 21 ▶

Record from **Web of Science®**

Output Record

Step 1:

- Authors, Title, Source
- plus Abstract
- Full Record
- plus Cited Reference

Step 2:

[\[How do I export to bibliographic management software?\]](#)

[Print](#)

[E-mail](#)

[Add to Marked List](#)

[Save to EndNote® Web](#)

[Save to EndNote®, RefMan, ProCite](#)

[Save to other Reference Software](#) ▼

[Save](#)

View in English

Please give us your [feedback](#) on using ISI Web of Knowledge.

[Acceptable Use Policy](#)
Copyright © 2010 Thomson Reuters



THOMSON REUTERS

Published by Thomson Reuters