

Title (en)

METHOD FOR THE IN SITU DIAGNOSIS OF BATTERIES BY ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY

Title (de)

VERFAHREN ZUR VORORT-DIAGNOSE VON BATTERIEN DURCH ELEKTROCHEMISCHE IMPEDANZSPEKTROSKOPIE

Title (fr)

METHODE DE DIAGNOSTIC IN SITU DE BATTERIES PAR SPECTROSCOPIE D'IMPEDANCE ELECTROCHIMIQUE

Publication

EP 2537040 A1 20121226 (FR)

Application

EP 11709980 A 20110211

Priority

- FR 1000665 A 20100217
- FR 2011000083 W 20110211

Abstract (en)

[origin: WO2011101553A1] The invention relates to a method for estimating the inner state of an electrochemical system for storing electrical energy, such as a battery. For different inner states of the same type of batteries as the analysed battery, impedance measurements are carried out by adding an electrical signal to the current flowing through the batteries. Then, an RC circuit is defined for modeling said impedances. A relation between the Soc (and/or the SoH) and the parameters of the RC circuit is then calibrated by means of a multi-varied statistical analysis. An impedance measurement of the analysed battery is carried out, and then modelled by means of the RC circuit. Then, by applying the relation to the parameters of the equivalent electric circuit, defined for the analysed battery, the inner state of said battery is estimated.

IPC 8 full level

G01R 31/36 (2006.01)

CPC (source: EP US)

G01R 31/367 (2018.12 - EP US)

Citation (search report)

See references of WO 2011101553A1

Cited by

CN112698213A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

FR 2956486 A1 20110819; FR 2956486 B1 20120831; CN 102859378 A 20130102; EP 2537040 A1 20121226; JP 2013519893 A 20130530; US 2013069660 A1 20130321; WO 2011101553 A1 20110825

DOCDB simple family (application)

FR 1000665 A 20100217; CN 201180010041 A 20110211; EP 11709980 A 20110211; FR 2011000083 W 20110211; JP 2012553364 A 20110211; US 201113579357 A 20110211