

Title (en)

OPTIMIZED METHOD FOR MANAGING HEAT IN AN ELECTROCHEMICAL STORAGE SYSTEM

Title (de)

OPTIMIERTES VERFAHREN ZUR WÄRMEVERWALTUNG IN EINEM ELEKTROCHEMISCHEN SPEICHERSYSTEM

Title (fr)

PROCEDE OPTIMISE DE GESTION THERMIQUE D'UN SYSTÈME ELECTROCHMIQUE DE STOCKAGE

Publication

EP 2705380 A1 20140312 (FR)

Application

EP 12724661 A 20120426

Priority

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Abstract (en)

[origin: WO2012150384A1] The present invention relates to an optimized method for managing the surface temperature and the core temperature of an electrochemical storage system under nominal and extreme operating conditions. For uses relating to hybrid and electric vehicles, the heat state (T) at the surface and in the core of the elements constituting the system must be controlled in order to prevent any risk of thermal runaway, fire, and explosion. The reconstruction of the internal characteristics that are not directly measurable, such as the temperature in the core of the elements, is carried out using an electrical, thermal, and thermochemical runaway model of the battery. The method can be used synchronously with the operation of the battery itself (real time) using a model with concentrated parameters (OD), or offline, e.g. in the context of a calibration, an optimization, or an evaluation of the power and heat management strategies. The method makes it possible to simulate the thermal, electrical, and thermochemical runaway behavior of a battery, and said method can also be used for sizing the battery.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

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