US 20230231406A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0231406 A1**

YOKOYAMA (43) **Pub. Date: Jul. 20, 2023**

(54) **METHOD FOR ACQUIRING INFORMATION OF ENERGY STORAGE DEVICE, METHOD FOR CONTROLLING CHARGING, STATE ESTIMATION METHOD, LIFE ESTIMATION METHOD, ENERGY STORAGE SYSTEM MANUFACTURING METHOD, AND ENERGY STORAGE DEVICE MANAGEMENT APPARATUS**

(71) Applicant: **GS Yuasa International Ltd.**, Kyoto-shi (JP)

(72) Inventor: **Junpei YOKOYAMA**, Kyoto (JP)

(21) Appl. No.: **18/101,434**

(22) Filed: **Jan. 25, 2023**

Related U.S. Application Data

(63) Continuation of application No. 16/769,889, filed on Jun. 4, 2020, now Pat. No. 11,594,910, filed as application No. PCT/JP18/46746 on Dec. 19, 2018.

(30) **Foreign Application Priority Data**

Dec. 19, 2017 (JP) 2017-242899

Publication Classification

(51) **Int. Cl.**
H02J 7/00 (2006.01)
H01M 10/48 (2006.01)

(52) **U.S. Cl.**
CPC ***H02J 7/007188*** (2020.01); ***H02J 7/005*** (2020.01); ***H01M 10/48*** (2013.01); *B60L 53/62* (2019.02)

(57) **ABSTRACT**

A method for acquiring information of a battery cell (**11**) includes a step (S**101**) of acquiring information pertaining to performance recovery accompanying the suspension of charging/discharging of the battery cell (**11**). Control pertaining to the battery cell (**11**) and estimation of a state of the battery cell (**11**) can be appropriately performed according to a type of battery cell (**11**).