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**YAMAGAMI et al.**(10) **Pub. No.: US 2023/0231209 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **SECONDARY BATTERY SYSTEM****Publication Classification**(71) Applicant: **DENSO CORPORATION**, Kariya-city (JP)(72) Inventors: **Yuji YAMAGAMI**, Kariya-city (JP);  
**Masaaki KITAGAWA**, Kariya-city (JP); **Hisashi UMEMOTO**, Kariya-city (JP); **Shuhei YOSHIDA**, Kariya-city (JP)(51) **Int. Cl.****H01M 10/48** (2006.01)**H01M 10/46** (2006.01)**H02J 7/00** (2006.01)(52) **U.S. Cl.**CPC ..... **H01M 10/48** (2013.01); **H01M 10/46** (2013.01); **H02J 7/00714** (2020.01); **H01M 2220/20** (2013.01); **H01M 2010/4292** (2013.01)(21) Appl. No.: **18/074,566**(22) Filed: **Dec. 5, 2022**(30) **Foreign Application Priority Data**

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**ABSTRACT**

A secondary battery system includes a secondary battery having an electrode body impregnated with an electrolytic solution containing metal ions. The secondary battery system measures an impedance of the secondary battery. The secondary battery system detects high-rate deterioration caused by uneven concentration of the metal ions in the electrolytic solution impregnated into the electrode body.

