



US 20240222992A1

(19) **United States**

(12) **Patent Application Publication**
GOHIER

(10) **Pub. No.: US 2024/0222992 A1**

(43) **Pub. Date: Jul. 4, 2024**

(54) **METHOD AND DEVICE FOR
CONTROLLING THE LEVEL OF CHARGE
OF A TRACTION BATTERY OF AN
ELECTRIC VEHICLE**

Publication Classification

(51) **Int. Cl.**

H02J 7/00 (2006.01)

B60L 53/14 (2006.01)

B60L 53/31 (2006.01)

B60L 58/13 (2006.01)

H02J 7/04 (2006.01)

(52) **U.S. Cl.**

CPC *H02J 7/0069* (2020.01); *B60L 53/14*

(2019.02); *B60L 53/31* (2019.02); *B60L 58/13*

(2019.02); *H02J 7/007* (2013.01); *H02J 7/04*

(2013.01); *B60L 2240/547* (2013.01); *B60L*

2240/549 (2013.01)

(71) Applicant: **RENAULT s.a.s.**, Boulogne-Billancourt
(FR)

(72) Inventor: **Aurelien GOHIER**, Massy (FR)

(73) Assignee: **RENAULT s.a.s.**, Boulogne-Billancourt
(FR)

(21) Appl. No.: **18/605,421**

(22) Filed: **Mar. 14, 2024**

Related U.S. Application Data

(63) Continuation of application No. 17/283,741, filed on
Apr. 8, 2021, now abandoned, filed as application No.
PCT/EP2019/076957 on Oct. 4, 2019.

Foreign Application Priority Data

Oct. 9, 2018 (FR) 18 59336

(57)

ABSTRACT

A method for controlling a level of charge of a traction battery of an electric vehicle connected to an electricity distribution grid by way of a charger during a downtime phase of the vehicle. The method includes a first step of forcibly discharging the battery, performed in a discharging circuit associated with the battery, with a discharge current that is calibrated in terms of strength with respect to the nominal capacity of the battery, so as to slowly and completely discharge the battery to its minimum voltage, and a step of normally charging the battery with a setpoint charging current prescribed by the charger or the battery, so as to charge the battery to a useful level of charge of the battery.

