US 20220360139A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0360139 A1**

CASSOLI et al. (43) **Pub. Date: Nov. 10, 2022**

(54) **METHOD FOR MINIMIZING GENERATOR VIBRATIONS**

(71) Applicant: **Wobben Properties GmbH**, Aurich (DE)

(72) Inventors: **Jair CASSOLI**, Aurich (DE); **Roberto ROSSO**, Aurich (DE)

(21) Appl. No.: **17/622,644**

(22) PCT Filed: **Jun. 25, 2020**

(86) PCT No.: **PCT/EP2020/067815**

§ 371 (c)(1),
(2) Date: **Dec. 23, 2021**

(30) **Foreign Application Priority Data**

Jun. 28, 2019 (DE) 10 2019 117 477.5

Publication Classification

(51) **Int. Cl.**

H02K 7/18	(2006.01)
F03D 9/25	(2006.01)
H02P 21/10	(2006.01)
H02P 21/05	(2006.01)

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

CPC ***H02K 7/183*** (2013.01); ***F03D 9/25*** (2016.05); ***H02P 21/10*** (2013.01); ***H02P 21/05*** (2013.01); *H02P 2101/15* (2015.01)

(57) **ABSTRACT**

Provided is a method for controlling an active rectifier connected to a stator of a wind power installation using field-oriented control. The generator comprises a stator having an axis of rotation around which the rotor is mounted. The method includes predefining rotor-fixed d and q coordinates for at least one 3-phase stator current of the generator and determining at least one alternating component for the rotor-fixed d and/or q coordinate depending on a detected amplitude and detected phase position of an electrical power oscillation on the generator and taking account of a rotor position representing a mechanical position of the rotor in relation to the stator. The method includes adding the alternating component for the rotor-fixed d and/or q coordinate to the rotor-fixed d and/or q coordinate to form a modified d and/or q coordinate, and controlling the active rectifier at least depending on the modified d and/or q coordinate.