



US 20220352772A1

(19) **United States**(12) **Patent Application Publication**
Willig(10) **Pub. No.: US 2022/0352772 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **ELECTRIC MACHINE**(52) **U.S. Cl.**(71) Applicant: **Robert Bosch GmbH**, Stuttgart (DE)CPC **H02K 1/27915** (2022.01); **H02K 21/22**
(2013.01)(72) Inventor: **Matthias Willig**, Karlsruhe (DE)

(57)

ABSTRACT(21) Appl. No.: **17/263,232**(22) PCT Filed: **Jul. 23, 2019**(86) PCT No.: **PCT/EP2019/069792**

§ 371 (c)(1),

(2) Date: **Jan. 26, 2021**(30) **Foreign Application Priority Data**

Jul. 27, 2018 (DE) 10 2018 212 573.2

Publication Classification(51) **Int. Cl.****H02K 1/27915** (2006.01)**H02K 21/22** (2006.01)

The invention relates to an electric machine (1) comprising a stator (10) and a rotor (20) separated from the stator (10) by way of an air gap, wherein the rotor (20) has a plurality of shell-like magnet segments (30) secured to a rotor body (22), and wherein the magnet segments (30) have in the circumferential direction in each case a plurality of sections (32, 33, 34) with different magnetic polarizations, which each form a magnetic pole of the rotor (20), and wherein transition zones (36) are formed between the sections (32, 33, 34) of the magnet segments (30) with different magnetic polarizations, wherein recesses (40) are provided in the magnet segments on the side facing the stator (10). It is proposed that the transition zones (36) are formed so as to run obliquely in the axial direction of the rotor (20) and that the transition zones (36) are formed in the region of the recesses (40).

