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**Hosek et al.**(10) **Pub. No.: US 2022/0352776 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **STRUCTURES UTILIZING A STRUCTURED  
MAGNETIC MATERIAL AND METHODS  
FOR MAKING***C23C 4/06* (2006.01)*C23C 8/02* (2006.01)*H01F 1/24* (2006.01)*H01F 41/02* (2006.01)(71) Applicant: **Persimmon Technologies, Corp.**,  
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Boxborough, MA (US)*H02K 1/02* (2006.01)*B22F 3/115* (2006.01)*B22F 1/16* (2006.01)*H02K 1/12* (2006.01)*H02K 1/22* (2006.01)(21) Appl. No.: **17/863,486**(22) Filed: **Jul. 13, 2022**(52) **U.S. Cl.**CPC ..... *H02K 3/28* (2013.01); *C23C 8/10*(2013.01); *C23C 4/06* (2013.01); *C23C 8/02*(2013.01); *H01F 1/24* (2013.01); *H01F**41/0246* (2013.01); *H02K 21/12* (2013.01);*H02K 21/16* (2013.01); *H02K 1/02* (2013.01);*B22F 3/115* (2013.01); *B22F 1/16* (2022.01);*H02K 1/12* (2013.01); *H02K 1/22* (2013.01);*C22C 2202/02* (2013.01)**Related U.S. Application Data**(63) Continuation of application No. 16/741,111, filed on  
Jan. 13, 2020, now Pat. No. 11,404,929, which is a  
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Sep. 30, 2014, now Pat. No. 9,887,598.(60) Provisional application No. 61/884,415, filed on Sep.  
30, 2013, provisional application No. 61/920,043,  
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tion No. 61/941,644, filed on Feb. 19, 2014.**Publication Classification**(51) **Int. Cl.***H02K 3/28* (2006.01)*C23C 8/10* (2006.01)

(57)

**ABSTRACT**

A motor comprises a stator comprising at least one core; a coil wound on the at least one core of the stator; a rotor having a rotor pole and being rotatably mounted relative to the stator; and at least one magnet disposed between the rotor and the stator. The at least one core comprises a composite material defined by iron-containing particles having an alumina layer disposed thereon.

