



US 20240213902A1

(19) **United States**

(12) **Patent Application Publication**  
**Chen et al.**

(10) **Pub. No.: US 2024/0213902 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **METHOD FOR CONTROLLING DIRECT DRIVE SYSTEM AND RELATED DEVICE**

**Publication Classification**

(71) Applicant: **AAC Microtech (Changzhou) Co., Ltd.**, Changzhou City (CN)

(51) **Int. Cl.**  
**H02P 25/06** (2006.01)  
**H02P 23/14** (2006.01)  
(52) **U.S. Cl.**  
CPC ..... **H02P 25/06** (2013.01); **H02P 23/14** (2013.01)

(72) Inventors: **Min Chen**, Shenzhen (CN); **Lin Qian**, Shenzhen (CN); **Weiling Shi**, Shenzhen (CN); **Xueyuan Zhu**, Shenzhen (CN); **Shun Guo**, Shenzhen (CN)

(57) **ABSTRACT**

A method for controlling a direct drive system, including: S1: outputting, by the actuator, a current to the winding of the stator corresponding to the actuator to cause the windings to drive the mover corresponding to the windings to move in a single direction along the guide rail; S2: sensing a position of the second position feedback means through the first position feedback means, and acquiring position information of the mover relative to the stator; and S3: changing a drive mode of the actuator according to the position information, so that the actuator adjusts, according to the drive mode, magnitude of the current outputted to the windings of the stator corresponding to the actuator. The above solution can reduce a number of power modules used in the direct drive system, so as to reduce overall manufacturing and use costs of the direct drive system.

(21) Appl. No.: **17/918,553**

(22) PCT Filed: **Jul. 28, 2022**

(86) PCT No.: **PCT/CN2022/108445**

§ 371 (c)(1),

(2) Date: **Oct. 12, 2022**

(30) **Foreign Application Priority Data**

Jun. 30, 2022 (CN) ..... 202210770583.0

