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Hu et al. (43) **Pub. Date: Nov. 17, 2022**(54) **SINGLE-PHASE PERMANENT MAGNET SYNCHRONOUS MOTOR AND DUST COLLECTOR**(30) **Foreign Application Priority Data**

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A single-phase permanent magnet synchronous motor and dust collector. The single-phase permanent magnet synchronous motor includes a plurality of stator teeth, the plurality of stator teeth include at least: a first-type and second-type stator tooth; the first-type and second-type stator teeth enclose an annular working cavity for accommodating a rotor part, where the size of a central angle corresponding to a first contour line of an end face of the first-type stator tooth facing the rotor part is different from the size of a central angle corresponding to a second contour line of an end face of the second-type stator tooth facing the rotor part. The motor has a significantly reduced cogging torque, a greatly reduced torque ripple, and an obviously increased motor output torque. The single-phase permanent magnet synchronous motor is small in size, light in weight, simple in structure, convenient for large-scale manufacture and low in manufacturing cost.

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