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(54) **POWER DISTRIBUTION WITHIN AN ELECTRIC MACHINE WITH RECTIFIED ROTOR WINDINGS**

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(57) **ABSTRACT**

An electric machine includes a stator defining multiple stator poles with associated stator windings configured to receive a stator current. The electric machine also includes a rotor defining multiple fixed rotor poles with associated rotor windings, wherein the rotor defines a field energizable by magnetic fields produced by the stator windings when receiving the stator current to produce relative motion between the rotor and the stator and wherein the rotor is maintained in synchronicity with the magnetic fields produced by the stator during operation of the electric machine. The electric machine also includes a rectification system configured control against an alternating current being induced in the rotor poles as the field is energized by magnetic fields produced by the stator windings when receiving the stator current.