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عنوان مقاله:

ANALYSIS OF WOUND STATOR MAGNETIC GEAR USING THREE SEGMENT HALBACH ARRAY

محل انتشار:

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خلاصه مقاله:

The present study discusses a new structure of single layer magnetic gear (SL-MG) with Halbach array in external rotor, which is named single layer magnetic gear with Halbach array (HSL-MG). The key point in this design is using three segment Halbach array instead of the conventional permanent magnets in magnetic pole pairs of external rotor in single layer magnetic gear, and this leads to increasing the magnetic couple between wound stator and permanent magnets of external rotor. Electromagnetic function and FEM two dimensional analysis are done on both magnetic gears and these two magnetic gears of wound stator are compared with each other. The results show that the magnetic gear under study has a higher torque density than its conventional version; therefore, this kind of magnetic .gear is more suitable for low-speed engines and high torque direct drive applications

کلمات کلیدی:

Magnetic gear, Halbach Array, Direct Drive Applications, Wound stator

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