عنوان مقاله:

Magnetostatic Analysis of a Novel Switched Reluctance Generator

محل انتشار:

اولین کنفرانس بین المللی الکترونیک قدرت و سیستم های درایو (سال: 1388)

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خلاصه مقاله:

The switched reluctance machine is a simple and robust machine, which has found application over a wide power and speed ranges in different shapes and geometries. One of the most important characteristics of switched reluctance machine is the ability of this machine to be used in generating mode which is known as switched reluctance generator (SRG). In this study, a novel switched reluctance generator is proposed, the proposed generator consists of two magnetically independent stator and rotor sets (layers), where each stator set includes four salient poles with windings wrapped around them, while the rotor comprises of two salient poles with almost equal arc lengths and no windings. To evaluate the generator performance and voltage production, two types of analysis, namely, the numerical technique and the experimental study have been utilized. In the numerical analysis, the finite element analysis is employed, where as in the experimental study, a proto-type generator has been fabricated and tested.

کلمات کلیدی:

switched reluctance generator, finite element method, magnetostatic analysis

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