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MAGNETIC FIELD CALCULATION OF BRUSHLESS DIRECT CURRENT MOTOR WITH SMOOTH STATOR BY SECONDARY SOURCES METHOD

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Abstract

A mathematical model of a brushless direct current motor (BLCM) with high-corrosion permanent magnets is developed. It is based on the secondary sources method, and allowed the problem of calculating the magnetic permeability distribution in the engine ferromagnetic elements to reduce to solving a system of integral equations of the simple layer density and the volume density magnetic charges. An iterative method of finding the magnetic permeability is proposed taking into account the nonlinear dependence of the magnetic permeability. References 10, figures 3.

Key words: ac converter-fed motor, magnetic permeability, nonlinearity, secondary sources method.

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