

عنوان مقاله:

Estimation of Insulation Life of Inverter- Fed Induction Motors

محل انتشار:

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

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خلاصه مقاله:

This paper is concerned with the effect of power system harmonics and voltage unbalances on the thermal aging of the insulation of electric motors. A thermal model is proposed where the motor is divided geometrically into a number of lumped components, with interconnections to neighboring components through a linear mesh of thermal impedances. The lumped parameters are derived from entirely dimensional information, the thermal properties of the materials used, and constant heat transfer coefficients. Arrhenius chart is then used to estimate motor insulation remaining life. The proposed approach is used to determine the effect of supply harmonics and voltage unbalances on the useful life of a three phase induction motor and also validated by experimental results.

کلمات کلیدی:

harmonic analysis, induction motors, insulation life, distortion

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