

Gastvortrag

Fault Diagnosis of Induction Motors

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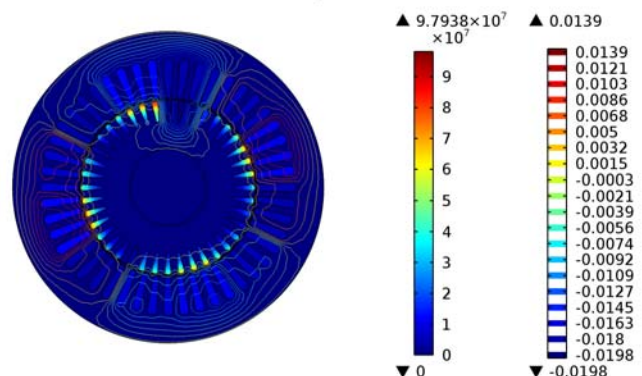
Fault diagnosis has received significant attention in recent years, focusing on different aspects. This presentation will focus on recent developments made in this field at Aalto University, notably be the presenter.

The first part deals with the electromagnetic modelling of faulty induction motors using Finite Element techniques. These works have been validated by means of both permeance models and experimental measurements.

Then, health monitoring of an induction motor using an array of accelerometers on the stator's surface is discussed. These approaches have been validated using the radial forces computed from Maxwell's Stress Tensor in the air-gap by the previously developed computational models.

In the final part, a set of estimation algorithms to enhance the health monitoring of the motor is presented. These algorithms aim to provide accurate estimates of the frequencies, amplitudes, and phases of the computed spectrum of the stator currents.

Time=0.002 Contour: Magnetic vector potential, z component (Wb/m)
Surface: Current density norm (A/m²)



Mr. **Javier Martinez** received the BSc degree in Telecommunications from the Universitat Politècnica de Catalunya in 2005 and the MSc degree in Electrical Engineering from Helsinki University of Technology in 2009. He is currently pursuing his PhD at Aalto University in Finland in the field of Electromechanics. His research interests are in Finite Element Analysis and Digital Signal Processing applied to Electric Machines.