

# Multi-Slice Finite Element Analysis of Induction Motor

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A squirrel cage motor supplied with sinusoidal voltage was analysed. The methods of rotating movement simulation have been presented. The techniques with the fixed grid and model with moving grid in the rotor have been used for the simulation of 3kW asynchronous motor. The study was based on the field-circuit model. The algorithm for solving the equations of the model has been discussed. On the basis of the presented algorithm a program for the field – circuit analysis of induction motor operation has been elaborated. In the analysis of the selected states of the motor the non-linearity of the magnetic circuit and skewed slots of the rotor were taken into consideration. The analysis was performed for the motor supplied with 400V, 50Hz frequency voltage. The electromagnetic torque and phase current curves have been calculated. Selected results of simulation tests were shown.