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Thesis Advisory Committee : Assoc.Prof. Sthaporn Udomsin, Dr.Chaipat Wattanasan

Abstract

This thesis presents the output error technique to identify induction machine parameters by measuring the stator voltages, the stator currents and the rotor speed during steady state. Validity of the identified parameters is proven using experiments on an induction machine rated at 1 kW, 3-phase, 4 poles, 380 V, 50 Hz supplied by a 50 Hz sinusoidal voltage source. The actual machine's responses are compared with the model's simulated responses which use two sets of parameters. The first set of machine parameters is obtained from conventional tests, namely no-load and locked-rotor tests. The other is determined using the developed parameter identification technique. It is shown that the latter results in machine steady state responses which are closer to the actual responses as compared to the former.