Intelligent Parameter Estimation of a Induction Motor Using Immune Algorithm

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Abstract

This paper suggests the techniques in determining the values of the steady-state equivalent circuit parameters of a three-phase squirrel-cage induction machine using immune algorithm. The parameter estimation procedure is based on the steady state phase current versus slip and input power versus slip characteristics. The proposed estimation algorithm is of a nonlinear kind based on clonal selection in immune algorithm. The machine parameters are obtained as the solution of a minimization of least-squares cost function by immune algorithm. Simulation shows better results than the conventional approaches.

Keyword : *Immune algorithm, motor control, optimization, tuning*