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VECTOR CONTROL OF INDUCTION MOTOR USING FUZZY LOGIC VOLTAGE SOURCE INVERTER

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Abstract

The objective of this paper is to use the methods of the vector in the direction of the switching of the inverter using fuzzy logic for induction motor. With the field-oriented techniques, the decoupling of torque and flux control commands of the induction motor is guaranteed, and the induction motor can be controlled linearly as a separately excited DC motor. The efficient optimization control based on an on-line search of optimum flux is done using fuzzy logic controller. The fuzzy control has the advantages of being able to handle noisy and inaccurate input signals, and the step size of the i_{as} decrement in adaptive, so that fast convergence in the control is attained. The computer simulation results show that the performance of the vector control of the induction motor is similar to the performance of a separately excited DC motor.

Keywords: Optimization, Fuzzy logic & Computer simulation