Off-Line Parameter Estimation for the Induction Motor Drive System

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Abstract : It is important to accurately identify machine parameters for direct vector control. To obtain the parameter values, traditional methods can be used such as no-load and rotor locked tests. However, there are many differences between values obtained from the traditional tests and actual values. In addition, there are drawbacks that additional equipment and cost are required for the experiment. Therefore, it is hard to temporary operation to estimate induction motor parameters. Therefore, this paper deals with the estimation algorithm of induction motor parameters without a motor operation and the measurement from additional equipment such as sensors and dynamometer. The validity and usefulness of the estimation algorithm considering inverter nonlinearity is verified by comparing the conventional method with the proposed method.

Keywords : induction motor, parameter, off-line estimation, inverter nonlinearity

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