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An Improved Parameter Identification Method for Three Phase Induction Motor

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Abstract : In order to improve the control performance of vector inverter, an improved parameter identification solution for induction motor is proposed in this paper. Dc or AC voltage is applied to the induction motor using the SVPWM through the inverter. Then stator resistance, stator leakage inductance, rotor resistance, rotor leakage inductance and mutual inductance are obtained according to the signal response. The discrete Fourier transform (DFT) is used to deal with the noise and harmonic. The impact on parameter identification caused by delays in the inverter switch tube, tube voltage drop and dead-time is avoided by effective compensation measures. Finally, the parameter identification experiment is conducted based on the vector inverter which using TMS320F2808 DSP as the core processor and results show that the strategy is verified.

Keywords : vector inverter, parameter identification, SVPWM; DFT, dead-time compensation
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