Abstract

Induction machine drive based on Direct Torque Control (DTC) allows high dynamic performance with very simple hysteresis control scheme. Conventional Direct Torque Control (CDTC) suffers from some drawbacks such as high current, flux and torque ripple, difficulties in torque as well as flux control at very low speed. In this paper, we propose two intelligent approaches to improve the direct torque control of induction machine; fuzzy logic control and artificial neural networks control. We carry out a detailed comparison study between direct torque fuzzy control (DTFC), direct torque neural networks control (DTNNC) and CDTC applied to switching select voltage vector. The theoretical foundation principle, the numerical simulation procedure and the performances of both methods are also presented.
Direct Torque Control of Induction Machine based on Intelligent Techniques

- Rajesh K, Gupta R, Bhangale S, Himanshu G. Artificial Neural Network Based Direct Torque Control of Induction Motor Drives. IET-UK International Conference on Information and Communication Technology in Electrical sciences (ICTES 2007)
Index Terms

Computer Science  Control Systems

Key words

Direct torque control  fuzzy logic control  neural networks

induction motor