

Abstract:

Induction motors (IMs) are very important components in industrial fields. This paper, variable speed actuator of induction motor (IM) with direct torque control (DTC) controller is proposed to control both flux and torque to increase the efficiency of a DTCIM in all period of operation due to adaptive algorithm. This adaptive algorithm set a large torque and flux at starting stage of operation to compensate instability while the small values of both torque and flux to control the steady state operation. Variable speed drive (VSDs) plays very essential role to control the speed and torque of IM by varying the voltage and frequency of IM supply. Simulation and experimental results through digital signal processor (DSP) ZQ28335 ensure accurate dynamic response in the torque and flux operations.