

Paper Title: - FIVE-LEVEL SVM INVERTER FOR AN INDUCTION MOTOR WITH DIRECT TORQUE CONTROLLER

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Abstract: The Direct Torque Control (DTC) is very good control scheme for dynamic performance and it is easy to implement and decoupling of motor variables along rotor flux axis is not required. The proposed DTC scheme uses the fundamental stator voltage vector for identification of sector for selection switching of vector to control stator flux and the torque. In this paper DTC proposed using five-level inverter has 125 space vector switching states and there are 61 effective vectors are possible. The proposed scheme is capable for enough degrees of freedom to control both electromagnetic torque and stator flux with very low ripple. From the simulation results shows that feeding electrical drive with five-level inverter can greatly improves the drive performance as compared to the 2 and 3-level inverters. The performance of this control method has been demonstrated by simulations performed using a versatile simulation package, Matlab/Simulink.

Key words: DTC, Five-level inverter, Space vector modulation