

## Direct torque control of multilevel inverter-fed induction machines - a survey

### Abstract :

Direct Torque Control with Multilevel Inverter (DTC-MLI) has emerged recently in high dynamics AC drives fields for induction machines or permanent magnet machines application. In this paper, a review on a variety of techniques and concepts of direct torque control of multilevel inverter-fed induction machines is presented. The techniques and concept involved are classified as follows: Look-up table hysteresis based DTC-MLI, DTC-MLI with space vector modulation, predictive control strategy of DTC-MLI, hybrid modulation and hybrid inverter strategy of DTC-MLI and DTC-MLI with fuzzy logic controller. From this review, the properties of the discussed controller techniques together with advantages and disadvantages are presented.