

## Three level Induction Motor Torque Control Schemes for Electric Vehicles application

*Abstract-* This work presents the results of an investigation into suitable torque control schemes for an electric vehicle application. The electric vehicle drive consists of rewind induction motors and a three-level IGBT inverter switching at 10 kHz. The schemes investigated are Direct Torque Control DTC with three-level IGBT inverter, and a new direct-torque fuzzy control (DTFC) scheme of induction motor with space vector modulation (SVM) is presented. The results of Matlab- Simulink simulations and a comparison between the control schemes are presented. It is found that the DTFC and space vector application using three-level IGBT is best for this application.

*Index Terms*—induction motor, fuzzy logic, vehicle application, three-level IGBT, space vector modulation (SVM).