ABSTRACT

Induction motor is the most widely used in industry. The advantages of induction motor such as simple construction, the price is cheaper than other types of motors, as well as easy maintenance. Meanwhile, the lack of induction motor speed regulation technique is relatively difficult and requires a high starting currents of about six times the motor nominal current. One method that was developed in the induction motor speed control is Direct Torque Control (DTC).

In this final project tried to perform design and implementation of Direct Torque Control (DTC) to control the speed of 3 phase induction motor using PI fuzzy controller for induction motor speed can be stabilized in accordance with the wishes. Setpoint of 1400 rpm was measured motor speed 1400 rpm. However, at speeds below 1400 rpm overshoot so it needs tuning value and at the boundary of Ki some oscillations occur. At 1000 rpm the setpoint given to a small overshoot Ki-value 5.

Keyword: Direct torque control, PI Fuzzy controller, Induction Motor, Inverter.