DESIGN AND SIMULATION OF 3-ϕ PMBLDC FED FROM CURRENT CONTROLLED VOLTAGE SOURCE

ABSTRACT

Brushless DC (BLDC) electromotor is a name referred not only to a type of a motor but to a type of control also. BLDC can be any electromotor with permanent magnets on a rotor. Stator windings can be sinusoidaly distributed but it is not necessary, a simple linear distribution which produces a trapezoidal back electromagnetic forces (BEMF) will do the job. That is an advantage because motors with sinusoidaly distributed stator windings make motor more expensive.

This thesis presents a transient and steady state performance of PMBLDC motor fed from current controlled voltage source inverter fed synchronous motor drive. The control algorithm is based on the estimation of firing angel from the measured currents and rotor position.

The Voltage fed current-controlled PMBLDC motor has attained a greater part in the various industrial applications as a variable speed drive because of its simplicity and improved dynamic behavior. In this thesis one brushless DC motor control method with position sensors on motor is considered. Dynamic model of the motor is implemented .And simulated the model using MATLB simulink.