

165. IMPLEMENTATION OF PMSM TORQUE CONTROL IN OPTIMUM SPEED BY SENSORLESS SIGNALLING

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To optimize the torque control performance of the permanent magnet synchronous motor (PMSM) due to sudden change in load, the sensorless control method and voltage angle (VA) control technique is developed in this paper. The fuzzy logic controller is used to control the speed of motor for keeping the motor speed to be constant when the load varies. The torque should be maintained as constant for irrespective of speed because of mechanical transients in load. The vector current control algorithm of permanent magnet synchronous (PMSM) motor for constant power operation over the base speed has been proposed. As the available voltage controlling the armature current is small in the flux-weakening constant power region, the armature vector current sometimes becomes uncontrollable in transient operations because of the current regulator saturation.

Key Words– Permanent Magnet Synchronous Motor drive, Voltage Angle control.

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