

## Abstract

Vector controlled induction motor drives are widely used in many industrial applications due its fast dynamic response. To obtain fast dynamic response of the robust control of torque is necessary. The torque of an induction motor depends upon large number of parameters. These parameters are applied voltage, stator and rotor currents, stator and rotor fluxes and mutual flux. But these parameters are dependent on each other. So it is very difficult to control the torque of an induction motor by these dependent parameters.

Vector control decouples the number of parameters which are dependent on each other. But to obtain the high performance operation of vector controlled induction motor drives, precise measurement of the electric parameters of the machine are necessary because these parameters are used in the controller as the feedback signals. If controller is operating with wrong values of parameters the dynamic response of the drive becomes poor.

This report demonstrate the parameter identification technique in which the system itself determines all the electrical parameters of the induction machine necessary for the operation of vector controlled induction motor drive. Usually, the inverter utilizes the machine parameters supplied from the manufacturer. Proposed scheme utilizes the inverter itself and its own controlling software program to find out the machine parameters. So, if inverter and motor are not supplied from the same manufacturer and the induction motor parameters are not known, the proposed method is very useful in finding out all the parameters necessary for the vector control operation. Also the machine parameters may change with the time, which means the parameters after some years are different from what they are at the initial time. So proposed method is very useful in finding out the electrical parameters at the time of vector control operation. It gives the instantaneous correct values of the parameters for vector control operation of induction motor drive.