Abstract

This paper describes an accurate rotor position estimation, which is very important for high performance operation of Switched Reluctance Motor (SRM). Earlier, a rotor position sensor has been used for sensing the rotor position. The position sensor used in SRM drives have the disadvantages of additional cost, electrical connections, mechanical alignment problems, less suitability to space restricted applications and significant disadvantage of being inherent source of unreliability. These bottlenecks have been motivated for the development of several sensorless techniques in the recent years. Here, a proposed sensorless scheme based on fuzzy system is used to overcome the disadvantages of sensor scheme. The rotor position or angle can be estimated by using the unique relationship between flux linkage and phase current in term of fuzzy rule base. Both simulation and experiment results on a Digital Signal Processor (DSP) based real time drive are presented to show the effectiveness of this scheme. The proposed scheme is provided to demonstrate the validity for implementing it to real world problems.

Reference


Index Terms

Power Engineering  Sensor-less Applications

Key words

8/6 SRM  DSP (TMS320F2812)

Sensorless Scheme

Fuzzy Estimator