Abstract

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Modeling and Simulation Of Sensorless Control Of PMSM Using ArtificialIntelligence

?A comparative study on sensorless vector control of PMSM (Permanent Magnet Synchronous Motor) drive system is presented in this work. In the sensorless technique, the rotor position and the angular speed of the motor are estimated by the Luenberger adaptive observer. These estimated values are feedback for vector control in the current loop and for speed control in the speed loop. The rotor angular speed is regulated by using two types of artificial intelligence controllers Fuzzy Logic and artificial neural network. Detailed comparison between these controllers is made to see the best motor performance.