Brushless DC Motor Tracking Control Using Self-tuning Fuzzy PID control and Model Reference Adaptive Control

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Abstract

This paper compares the performance of two different control techniques applied to high performance brushless DC motor. The first scheme is self-tuning fuzzy PID controller and the second scheme is model reference adaptive control (MRAC) with PID compensator. The purpose of the control algorithm is to force the rotor speed to follow the desired reference speed with good accuracy all time. This objective should be achieved for different speed/time tracks regardless load disturbance and parameter variations. The simulation results presented show that the second control scheme has better performance.

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