A Modified Model Reference Adaptive Controller for Brushless DC Motor

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Abstract

The model reference adaptive control (MRAC) are used extensively with high performance drives applications. This because of its ability to deal with external disturbances and parameter variation. This paper presents anexperimental implementation of two advanced control techniques to high performance brushless DC (BLDC) motor. The first technique is self-tuning fuzzy PID control algorithm in which the parameter of the PID is updated continuously according to the real time measurements of both error and change of error. The second technique is a modified MRAC (MRAC with PID compensator) in which the control action depends on MRAC and PID compensator.The experimental results presented show that the MRAC with PID compensator has better performance compared toanother technique.

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