

Parinya Sritanee 2012: A Study of Robust Brushless DC Motor Control. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professor Peerayot Sanposh, D.Sc. 85 pages.

In the motor control, the main requirement of BLDC motor controller is to perform good tracking response on the reference signal such as speed, position and torque. The good performance form good measurement signal with good signal processing, and compensation for uncertainties such as measurement noise and loading effects.

This thesis use 2 methods for parameter identification of BLDC motor: algebraic method and current measurement response method. In the simulation algebraic method is used for parameter identification. Then, it is used to designed a robust controller. After that the robust controller is compared with a PI controller by simulate current response, speed response and load effects. As a conclusion, the robust controller is more efficient than PI controller.

In the experiment the motor drive circuit is designed, and the current measurement current response method is used for motor parameter system identification. Furthermore, PI current and speed controllers are used. From the no-load experimental results, motor can track reference signal.

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