Abstract

This paper presents the development and performance analysis of intelligent control techniques such as Sliding Mode controller and Fuzzy logic Controller for Brushless DC (BLDC) motor drives. Today, strong mathematical tools used in new control methodologies to design adaptive nonlinear robust controller with acceptable performance. One of the best nonlinear robust controller which can be used in uncertainty nonlinear systems, are sliding mode controller but pure sliding mode controller has some disadvantages such as nonlinear dynamic uncertainties therefore to design model free sliding mode controller this research focuses on applied fuzzy logic controller in sliding mode controller. One of the most important challenging in pure sliding mode controller and sliding mode fuzzy controller is sliding surface slope coefficient therefore the second target in this research is design a supervisory controller to adjusting the sliding surface slope in sliding mode fuzzy controller.

References


- Yen-Shin Lai, Fu-san Shyu, Yung-Hsin Chang “Novel Loss Reduction Pulse width

Index Terms

Computer Science

Power Electronics

Keywords

Brushless DC motor Sliding mode control (SMC) Fuzzy Logic (FL) Slope Adjustment Matlab/Simulink