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

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An Adaptive Sliding Surface Slope Adjustment in Sliding Mode Fuzzy Control Techniques for Brushless DC Motor

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

2 / 3
An Adaptive Sliding Surface Slope Adjustment in Sliding Mode Fuzzy Control Techniques for Brushless DC Motor Drives

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Index Terms

Computer Science
Power Electronics

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