PID Bidirectional Speed Controller for BLDC with Seamless Speed Reversal using Direct Commutation Switching Scheme

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***Abstract*—Brushless Direct Current (BLDC) motors has gained popularity in recent years due to their performance, efficiency and power density. Many type of speed controller has been developed and Proportional Integral Derivative (PID) controller has been the most prominent due to simplicity. However, lack of evidence presented in literature regarding the bidirectional speed control of such motor. In this paper, a PID bidirectional BLDC motor speed controller using Direct Commutation Switching Scheme is proposed. The controller is developed and tested using MATLAB/Simulink. It is found that the controller performed efficiently for all the test cases.**

Keywords— BLDC; PID control; using Direct Commutation Switching Scheme;Speed Controller;Matlab/Simulink