

## Implementation of PWM Control Strategy for Torque Ripples Reduction in Brushless DC Motors

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### Abstract

The generated torque ripples from the BLDC motor is the main issue that affects the drive performance of the BLDC drive system. In this paper, a new switching technique to minimize the torque ripples due to current commutation is proposed. The presented scheme has been implemented using a commercial and low-cost mid-range PIC microcontroller to generate the modified pulse width modulation (PWM) control signals. An analysis of phase current during commutation time is carried out. Experimental results verify the effectiveness of proposed method. Results had shown a smoother output torque and current produced in comparison with that using conventional PWM control technique with an average of 50 % reduction in the generated torque ripples.

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