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Author Hong-Zgi Chen
Author's Email Address No Public.
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Abstract
In the dissertation, the design and implementation for DSP-based PMSM drives are considered .The sinusoidal pulse-width modulation is programmed in the TI DSP TMS 320F240, and its corresponding 3-phase signals are isolated by photocouplers to obtain proper voltages of the voltage source inverter to drive PMSM.

We use two Hall-effect CTs are used to close the current control loop, and the incremental encoder to feedback the A, B and Z signals for velocity control. The PID control algorithm is adopted in the control loops and the gain constants are also analyzed by Bode plots.
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