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Abstract
As the advance of switching speed for power electronics components in recent year, it generates some problems related to the voltage-fed PWM inverter, especially the adverse influence resulting by the common mode noise which is present at the motor terminal. In this thesis, the response to these concerns will be studied to solve those serious problems. The topic will be first focused on the analysis of the common mode noise phenomenon on the drive output. The design aspects of an inverter to suppress the common mode noise gradient at the drive output will be also investigated. Difference strategies including PWM method, passive filter method, soft switching method, etc…, will be researched also in order to seek a feasible solution. Finally, this thesis proposes a new passive structure to mitigate the common mode noise, and the experimental results confirm the effect for the proposed idea.
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