

SVM-DTC Using for PMSM Speed Tracking Control

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Abstract : In recent years, direct torque control (DTC) has become an alternative to the well-known vector control especially for permanent magnet synchronous motor (PMSM). However, it presents a problem of field linkage and torque ripple. In order to solve this problem, the conventional DTC is combined with space vector pulse width modulation (SVPWM). This control theory has achieved great success in the control of PMSM. That has become a hotspot for resolving. The main objective of this paper gives us an introduction of the DTC and SVPWM-DTC control theory of PMSM which has been simulating on each part of the system via Matlab/Simulink based on the mathematical modeling. Moreover, the outcome of the simulation proved that the improved SVPWM- DTC of PMSM has a good dynamic and static performance.

Keywords : PMSM, DTC, SVM, speed control

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