BULETINUL INSTITUTULUI POLITEHNIC DIN IAŞI
TOMUL LIV (LVIII), FASC. 4, 2008
ELECTROTEHNICĂ, ENERGETICĂ, ELECTRONICĂ

MATLAB SIMULATION OF AN AUTO-ADAPTIVE CONTROL SYSTEM OF A SWITCHED RELUCTANCE MOTOR DRIVE

BY

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Abstract. The paper presents a simulation of a control strategy for the Switched Reluctance Motor (SRM) in order to obtain an optimised operation in steady-state regime, and also to reduce the response time as much as possible in dynamical behaviour. The best values for the turn-on angle θ_{on} and duty cycle $\Delta\theta_c=\theta_{on}-\theta_{off}$, were obtained by numerical simulation in steady-state operation. The proposed control strategy for the dynamical regime reduces the response time by producing the limit values of the motoring or braking torque at a proper chosen time gap. The algorithms are useful to every poles configuration of the SRM and for different power levels.

Keywords: switched reluctance motor, Matlab-Simulink, simulation of dynamic regime.