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## OPTIMAL SWITCHING SEQUENCE – MODEL PREDICTIVE FLUX CONTROL OF THREE-LEVEL INVERTER-FED INDUCTION MOTOR DRIVE

**ABSTRACT** *The paper presents a novel model predictive torque control scheme for three-level inverter-fed sensorless induction motor drive operated in wide speed region including field weakening. Among the important features of the developed drive are: very high dynamics, constant switching frequency and no need to adjust weighting factors in the cost function. The theoretical principles of the used optimal switching sequence predictive control methods are discussed. The experimental results measured on 50 kW drive validate performances of the proposed predictive control system.*

**Keywords:** *Model predictive control, Induction motor drives, three-level NPC inverters*

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