PERFORMANCE ANALYSIS OF NOVEL SPACE-VECTOR PULSE WIDTH MODULATION (SVPWM) FOR DUAL TWO-LEVEL AND THREE- LEVEL INVERTER FED SIX PHASE INDUCTION MOTOR(SPIM)

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Abstract

In this paper, a modular MATLAB/ simulink implementation of Six phase Induction motor model control by Space Vector PWM scheme is adopted to dual two level and dual three level Inverter fed six phase induction motor . In this modular system, each block solves one of the model equations; It is to provide control and access of the machine parameters. The SVPWM method provides high safety voltages with less harmonic components. The principle of SVPWM method with voltage vector selection procedure for two level and Three Level fed six phase induction motor with a comparative study of these two are investigated. In the proposed method, the space-vector diagram of each three-level inverter is decomposed in to six space vector diagrams of two-level inverters. After decomposition, all the remaining necessary procedures for the dual three-level SVPWM are done like conventional dual two-level inverter. This proposed method reduces the algorithm complexity and the execution time. The theoretical study was numerically simulated and high power and high voltage two-level inverter applied to induction motors drives.