A COMPARATIVE STUDY OF TWO TYPES OF DTC WITH APPLICATION OF ARTIFICIAL INTELLIGENCE: FUZZY LOGIC AND NEURON NETWORK ON THE PERFORMANCE OF A MULTI-LEVEL INVERTER FED INDUCTION MACHINE

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ABSTRACT

We present in this paper the simulation results of the speed control of a 3 levels inverter fed induction machine controlled by the Direct Torque Control with application of artificial intelligence techniques both the fuzzy logic (DTC_FL) and the neural network (DTC_NN). A comparative study of these two techniques is also presented to illustrate the merits of each of the techniques on the performance of the 3-levels inverter-/induction machine set.

KEYWORDS: Induction Machine, 3-Levels Inverter, Direct Torque Control (DTC), DTC_FL, DTC_NN