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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