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Comparative Performance Study between DTC_C and DTNC Multi-level Inverter Fed DSIM

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Abstract : A comparative performance study between the classical direct torque control (DTC_C) and that of a direct torque control improved by applying the technique of artificial intelligence based on the neural network (DTNC) is proposed in this paper. The command is applied to a double-stator induction machine (DSIM) fed by a multi-level inverter. Simulation results of the speed control of the machine and the improvement of the torque and the flux by reducing the fluctuations are studied by illustrating the DTNC merits compared to the classical DTC_C.

Keywords : A double-Stator Induction Machine, Direct Torque Control, Neural Network, Multi-level Inverter.