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Performances of Robust Sliding Mode with Type-2 Fuzzy Logic Controller for Dual Star Induction Motor

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Abstract: To ensure the proper control of the system of doubly star induction motor (DSIM), a novel proposed scheme control using the technique sliding mode via Type-2 Fuzzy logic (T2FSMC) for to control the speed of a DSIM, to make guarantee the performance robustness and stability of the machine model. An appropriate combination of the sliding mode controller (SMC) improved by the type-2 fuzzy logic is adopted for approximate the second step discontinuous control of SMC to get better with high accuracy the robustness of the DSIM control systems and can eliminates the chattering effect. The dynamic system of the machine is modeled, simulated and validated in Simulink by MATLAB, behavior, the modeling details and the simulations results obtained are presented described in detail after.

Keywords: Galerkin approximation, Maple Computer Algebra System, Differential

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