

SUMMARY

Bachelor's diploma consists of 113 pages, 49 figures, 4 tables and 27 references.

Sensitivity of indirect field oriented control of induction generator to parametric perturbations was examined in this project.

By means of mathematical modeling as well experimentally was confirmed that field oriented control algorithm being investigated provided asymptotic tracking of referenced voltage of constant current link.

Partial compensation of parametric perturbations, namely changing the active resistance of the rotor due to heating is achieved by applying robustification feedback. Furthermore, adaptive system utilization enables to fully compensate perturbation effects on system.

Moreover, an experimental installation with indirect field oriented control algorithm for induction generator was designed. Investigations of another vector control algorithms can also be performed using that establishing.

AUTONOMOUS SYSTEM, INDUCTION GENERATOR, INDIRECT FIELD ORIENTED CONTROL, CONTROL ALGORITHM, SYNTHESIS, TRANSIENTS, VARIATION, ROBUSTIFICATION, ADAPTATION, TESTING.

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