

ABSTRACT

The diploma project made on 102 pages, includes 62 figures, 31 tables and 6 graphical parts made on sheets of A1 format and 3 appendix

The purpose of this thesis is to design and implement digital control system of electromagnet suspension plant.

During this project realization were made: analytical review about existing types and species of magnetic levitation and its applications. The structural scheme of electromagnet. Were studied way how to design controller for electromagnetic suspension plant. Additional research to reveal influence of controller gains on the air gap transient were made.

Was made a implementing designed system in the real plant. And made tune-up procedure for placed control system. System was tuned-up on the best parameters.

MAGNETIC LEVITATION SYSTEM, ELECTROMAGNETIC SUSPENSION, ELECTROMAGNET, PERMEABILITY, ATTRACTION FORCE, IR-LED, PHOTODIODES, ARDUINO, SIMULINK

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