Abstract

This diploma project consists of 56 pages, 24 illustrations, 5 formulas, 12 literary sources.

Key words: eddy current control, parametric converter, digital signal processing, method of higher harmonics

In the diploma project the research of different methods of control of ferromagnetic materials was conducted.

Structural and functional diagrams are made. Based on the drawings, a schematic diagram and printed circuit board were also developed. On the basis of the performed calculations, an experimental installation in the «Comsol Multiphysics» software was developed.

As a result of the study, the method of higher harmonics was selected and an experimental setup was prepared for further research and development of the device.

The **purpose of the work** is to study the methods of measuring the parameters of ferromagnets. Its development and drawing up of documentation for it

The **object of the study** is the process of eddy-current diagnostics by the method of higher harmonics

Subject of research - methods of measurement of parameters of ferromagnets

Scientific novelty - the newest method for obtaining information on the parameters of ferromagnetic materials