

## **Abstract**

This diploma project consists of 65 pages, 29 illustrations, 19 formulas, 10 literary sources.

Keywords: eddy current control, eddy current converter, digital signal processing, DDS frequency synthesizer

In the diploma project, various methods of eddy current control of ferromagnetic materials were studied.

As a result of the study, the structural and functional schemes of the defectoscope were developed, the basis of which is the measurement of DDS frequency synthesizers. For a more detailed study of the principle of the work, the model of a typical synthesizer in LabView was developed and investigated in order to maximally approximate the real algorithm of work.

The purpose of the work is to develop a flaw detector, which will not yield to the accuracy of the measurement of modern serial flaw detectors, but will be cheaper to manufacture and consume less energy.

Scientific novelty - modern method of eddy current flaw detection