Abstract

The diploma project consists of 95 pages, 65 drawings, 14 literary sources.

The diploma project is a resolution and solution of problems of designing an ultrasonic flaw detector to control the crack of a metal object of control. The task of this project is to calculate acoustic and electroacoustic tractors for control of axles of wheel pairs of rail ground transport. The diploma project contains calculations of acoustic paths, geometric dimensions of control units (piezoelectric transducer and prism) taking into account the features of control, possible errors, probability of control and electrical elements. The graphic part of the diploma project presents the structural diagram of the sensor, made on a sheet of A4, functional diagram - on a sheet of A3, component drawing of the sensor - on a sheet of A1, electrical schematic - on a sheet of A1, and specification for electrical schematic.

Purpose: to design a device that can help control all wheeled park trams at the location of the smallest axle cracks.

Subject of research: methods and means of ultrasonic control the integrity of the axis of the wheel pair of rail transport.

Object of research: monitoring of the axis of the tram wheel pair.

Key words: ultrasound, axles of wheel pairs, ultrasonic flaw detection, echo-pulse method.