ABSTRACT

This master's dissertation consists of 76 pages, 17 illustrations, 25 tables, 19 sources according to the list of references.

In the master's thesis the instruments, axle control systems, their comparison, and the choice of the method of the method of analysis were analyzed.

The characteristics of the automated non-destructive testing system, advantages and disadvantages are considered. An ultrasonic wheel axle control system was developed. A system is proposed that includes a mechanical block, a flaw detection unit, and a data processing unit. The defectoscopy unit consists of four channels of two transducers in each.

The marketing component of the startup project is analyzed to determine the possibility of its implementation and possible market directions of implementation.

The object of the research is the process of automated acoustic non-destructive control of the axles of the wheel pairs of the railway warehouse and underground.

The subject of the research is the methods and means of automated acoustic control of axle wheelsets.

The purpose of the master's dissertation work is the development of an automated system of ultrasonic control of axles of wheel pairs and simulation of signal formation processes.

Keywords: ultrasound system, automated non-destructive testing system, the block of defectoscopy, wheel pairs testing.