

Annotation

Specialist Diploma project dedicated to the development of ultrasonic systems for monitoring rails. This work was a student of the department "devices and systems Nondestructive Testing " (NTU "KPI named Igor Sikorsky") Silenko Evgenii.

The object of study is the ultrasound system, the subject of research - structural and functional circuits, analog and digital channels. Volume of the course project 59 pages, it includes 36 figures, 10 references and applications.

The degree project consists of an introduction, six chapters and conclusions. The first chapter devoted to the review of the acoustic methods of nondestructive testing. The second section is devoted to the choice of calculation model the acoustic path, calculation of acoustic and electroacoustic tract. The third section is devoted to the development of functional circuit diagrams and time of calculation and selection of units of electric concept. In the fourth section covers engineering and technological part. The fifth section is devoted to assessing the reliability of controls.

The degree project is performed according to the task. This system can be used in industry to control rails.

Keywords: ultrasound, non-destructive testing, railroad rails, prism, acoustic path.