

ABSTRACT

The aim of the course project is to develop a computer system based on the method of higher harmonics for the control of titanium samples. Titanium, its alloys and titanium products.

At the beginning of the course project were presented theoretical materials with basic information about the methods, goals and objectives of structuroscopy and its areas of application.

During the dissertation the structural scheme, algorithm of work and calculation of the main components of the system were built.

The main part of the dissertation is the study of the structure of titanium samples using a computer system.

During the writing of the dissertation there was an attempt to conduct structuroscopy using ultrasound.

The development of a startup project for the potential start of mass production was also carried out, as well as the possibilities of the developed system entering the domestic and international markets were considered.

As a result of this work, a computer system was built and its efficiency was studied on aluminum and titanium samples.