SUMMARY

The diploma project is devoted to the development of a device for the treatment of Parkinson's disease using focused ultrasound.

The volume of the diploma project is: a calculation and explanatory note - 40 pages and a graphic part, which consists of 3 drawings.

The task of this project is to develop and calculate a primary transducer (namely, a refractor) for focusing ultrasound in a specific area of the patient's brain, to develop an electrical schematic diagram of the device and a description of the method of using the developed device for medical purposes. The project provides calculations of the coefficient of the acoustic path, gives recommendations for the choice of radiation voltage. The choice of the scheme is also substantiated, the necessary modern electronic components for its realization are selected.

In the graphic part of the course project the electric basic scheme on the A1 format, the specification for the electric basic scheme on the A4 format, the assembly drawing on the A4 format and the functional scheme on the A3 format are developed.

Key words: ultrasound, Parkinson's disease, focusing, refractor

Object of research: interaction of focused ultrasound with the human brain

Subject of research: means for focusing ultrasound in a given area of space