Annotation

To the diploma project of the fourth-year student, group PK-61 of the Faculty of Instrument-Making Anna Yakymchuk on the topic: "Ultrasound device for measuring of blood flow velocity in blood vessels."

The diploma project consists of 60 pages, 27 drawings, 16 literary sources.

Key words: ultrasound, dopplerography, piezoelectric sensor, blood velocity in vessels.

The diploma project is devoted to development of ultrasound device that is designed for measure the speed of blood flow in blood vessels.

In the first section, the existing methods of ultrasound non-destructive testing were analyzed and based on this information, the method on which the work of device will be based was determined. The pulse Doppler method was chosen.

The second section considers the features of ultrasound propagation in biological tissues.

In the calculation-theoretical part, the material of the piezoelectric transducer was selected and its general dimensions were calculated. The sequence of tissues through which the wave passes during diagnosis was determined, and the coefficient of the acoustic tract was calculated.

In the design and technological part the structural scheme was developed and on its basis the electronic schematic scheme was realized. The assembly drawing of the sensor was made on the basis of the calculations received in the calculation part.

The developed device satisfies all the established requirements.

The purpose of the work is to develop a device that will be able to measure of the blood flow velocity in the vessels.

The subject of research - methods and means of ultrasound control of blood velocity in blood vessels.

The object of study - monitoring the blood velocity in the vessels.