

Summary

Ultrasound is used in mass non-destructive testing and medical diagnostics are primarily media (as opposed to process ultrasound), so it has little intensity.

Currently existing methods brachiocephalic arteries do not allow detail to evaluate the quantitative characteristics of blood flow. Therefore, development of new type ultrasound probe to study the carotid artery is relevant.

In this bachelor project the essence of the Doppler method of measuring the speed of blood.

Made analytical review ultrasonic waves, biological characteristics of the environment and the Doppler effect.

The calculation of the acoustic path, designed and detailed design of the converter manufacturing technology converter. The design of the sensor used separately compliant converter. Also designed components concept, the calculation error and conclusions.