

D.A. CHUPIS

## **Liquid velocity measurement in the channel with diameter typical for blood vessels**

*Donetsk National University, Vinnytsia, Ukraine,  
Donetsk National Technical University, Krasnoarmiisk, Ukraine  
E-mail: dmitrychupis@gmail.com*

Mathematical simulations methods are widely used for the vessels blood flows investigations with the case of pathologies. Indirect noninvasive methods used for the simulation results verification such as vessel field of velocity visualization by means of the ultrasonic diagnostics, magnetic resonance tomography, angiography are distorted over the information-measuring systems disturbances influence and can't clearly give the right view about the simulation initial conditions right choice.

Device for the environment motion characteristics direct investigations in the channel with typical size comparable to the blood vessel is presented. Miniature measuring transducer with the 0,1 mm sensor size is designed for the high resolution providing within the measurements carrying out. Precious coordinate device for sensor positioning inside the vessel is proposed. Results of the designed measuring tool prior experimental investigations are given.