

The method for ultrasonic pulse measurement of the parameters characterizing the movement of the continuous medium consists in the periodical emission of the probing ultrasonic pulses along the specified probing direction followed by the reception of the reflected ultrasonic waves. Then the reflected ultrasonic waves are converted to the electric response signal, which is further processed, namely the main samples of the low-frequency complex response signal due to the given measuring volume of the medium under study are separated. The major phase difference of the indicated main samples within the adjacent probing periods is measured and the axial displacement rate of the ultrasound scatterers is calculated. According to the invention, the additional samples of the low-frequency complex response signal due to one or several additional measuring volumes of the medium under study are separated. One or several additional phase differences between the additional and main samples of the complex response signal are measured. Then the first spatial derivative for the phase of the speckle noise along the specified probing direction is calculated in sum with the deviation of the wave number. If necessary, the higher derivatives for the phase of the speckle noise along the specified probing direction are calculated. Finally, the axial displacement rate of the ultrasound scatterers in the specified major measuring volume between the adjacent probing periods is calculated. The device for realization of the method is also described. The invention allows for increasing precision in measuring the parameters characterizing the movement of the continuous medium.