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REGISTRATION OF THE HYDROACOUSTIC RADIATION SOURCES BY A SYSTEM OF SPATIALLY SEPARATED LASER STRAINMETERS

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The relevance of the work is to investigate the possibility of registering the source of hydroacoustic disturbance by a system of spatially spaced coastal laser strainmeters. The article describes the composition and characteristics of individual devices of the experimental complex created on the Gamov Peninsula. The experimental complex includes coastal laser strainmeters of stationary and mobile versions and low-frequency hydroacoustic radiating systems The experimental procedure is described, which allows investigating the possibility of signal reception at different distances from the receiving systems, including when the signal propagation route is overlapped by land. According to the results of the experiment, it is confirmed that the laser strainmeters stably register signals from the sources of hydroacoustic oscillations. The comparative results of registration of signals adopted by laser strainmeters at operation of the transmitter at each of the stations are presented. The results obtained show the possibility of controlling the hydroacoustic emission source when it moves across the controlled water area. In this case the control can be carried out by combining two different methods of measurement: 1) the method of spatially separated laser strainmeters; 2) the method of amplitude modulation of the signal of differently directed components of laser strainmeters. The results obtained showed the promising application of the system of laser strainmeters for registering the sources of low-frequency hydroacoustic radiation along the coast of the shelf zones.

Keywords: laser strainmeter, mobil strainmeter, spatially spaced, hydroacoustic radiation.

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