

EXPERIENCE OF APPLICATION OF ACOUSTIC PROFILOGRAPH WITH SYNTHESIZED APERTURE FOR SEARCHING FOR SMALL OBJECTS IN THE SEA BOTTOM

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The experience of using a small-sized acoustic profiler with chirp modulation of the sounding signal located onboard the AUV and designed to search for small-sized silted objects in the seabed is analyzed. The profiler resolution was increased by using aperture synthesis algorithms. The method of profilographic survey of the seabed is described concerning the search and detection of small-sized objects. The size of the detected small-sized targets was estimated using the aperture synthesis algorithm. Performance calculation of the profilographic survey regarding the duration of the survey of a given area, the costs of the primary processing of the obtained data, and secondary processing by synthesizing the aperture has been performed.

Keywords: acoustic profiler, seabed profiling, aperture synthesis method, autonomous unmanned underwater vehicle, aperture synthesis algorithm.

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