

INVESTIGATION OF SPATIOTEMPORAL CHARACTERISTICS OF SONAR SIGNALS AND NOISE USING ACOUSTICALLY TRANSPARENT VOLUMETRIC ANTENNAS

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ABSTRACT

One of the aspects the Special Research Bureau for Automation of Marine Research FEBRAS (Yuzhno Sakhalinsk) is focused on is creating small-scale metrology systems to solve various tasks of marine environment monitoring. This article refers to the development of an autonomous rapidly-deployable echo ranging system for oceanographic survey and solution of marine navigation tasks. The system comprises an autonomous sonobuoy with a system of wireless data link, a submersible antenna module and an acoustic data processing system and electric power supply optimized for set time operation. The system operability and technical characteristics were tested during the marine experimental works with the involvement of “Akademik M.A. Lavrentyev” research vessel. The results of experimental investigations and model tests are presented in the article.

Key words: acoustic antenna, echo ranging, noise direction-finding, beam pattern.

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