

APERTURE SYNTHESIS FOR MULTICHANNEL SIDE-SCAN SONAR WITH COMPENSATION OF TRAJECTORY INSTABILITY

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ABSTRACT

This page is devoted to synthetic aperture image construction for multi-channel side-scan sonar system. Synthetic aperture processing algorithm that predicts phase of reflected signal is described. New autofocus method for elaboration of carrier trajectory is proposed. Technical solutions for improvement of hardware-software complex «Synthesis» and increase of reliability of coherent collection and accumulation of multi-channel data are developed and partially implemented basing on result of experiments conducted in sea environment. Modeling software complex and results of processing of real and model data are described.

Keywords: synthetic aperture, side-scan sonar, multichannel array, autofocus, modeling software complex.

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