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EXPERIMENTAL INVESTIGATION OF SOUND FIELDS OF THE INFRASONIC RANGE IN A COASTAL WEDGE

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Two model solutions of the Pekeris boundary value problem, classical and generalized, are considered. The sound field, which is formed under the conditions of the coastal wedge in the infrasonic frequency range, is best suited for the experimental verification of these model solutions. The paper presents the experimental results of such verification under conditions when the differences in the model description of sound fields become the most significant. The most significant differences in the model solutions that are studied in this paper include the resonant structure of the sound field in a shallow sea and the small-scale alternating structure of the vortex component of the intensity vector, which becomes the dominant component of the sound field in the zone of interference minima of the sound pressure. To study these features, combined receivers are best suited, which make it possible to measure the full set of sound field characteristics in a scalar-vector description.

Key words: generalized solution, longitudinal resonance, combined receiver, coastal wedge, a small-scale sign-alternating vortex component of the intensity vector.

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