

# PHASE MECHANISM OF THE STABILITY OF THE VORTEX OF THE ACOUSTIC INTENSITY VECTOR

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The article focuses on dynamics of the self-consistent rearrangement of the phase difference between the components of the acoustic field inside the vortex under conditions of a shallow sea through the example of a real vortex of the acoustic intensity vector. An expression for the dynamic characteristic of the intrinsic angular momentum of the vortex is introduced. It has been established that the stability of the vortex is due to the rotation of the vector of the oscillatory velocity of the particles of the medium, which creates its own angular momentum of the vortex and compensates the external impact on the vortex from the region of constructive interference. The vertical reactive component of the energy density reaches its maximum value in the potential well of the vortex. The diameter of the vortex is commensurate with the wavelength of sound; the radiation frequency is 88 Hz.

**Keywords:** shallow sea acoustics, active and reactive intensity, intensity vortex, vortex potential well, vortex angular momentum.

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