

INFLUENCE OF POCKMARKS ON PROPAGATION OF LOW-FREQUENCY SOUND IN A SHALLOW SEA

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The manuscript considers sound propagation in a shallow-water acoustic waveguide that crosses a pockmark, i. e. a crater-shaped formation characterized by extensive natural gas outlet. Inherent for pockmarks high gas saturation is revealed in acoustic properties of medium as abrupt decrease of bottom sound speed. In the present work, influence of pockmarks on propagation of low-frequency sound is studied. It is shown that a pockmark can significantly amplify sound attenuation. A method of waveguide scanning using the data of acoustic propagator measurements is presented. Results of the scanning indicate possibility of individual acoustic beams which do not fall into the pockmark area. These circumstances open up prospects for remote detection of pockmarks.

Keywords: pockmark, shallow sea acoustics, waveguide, propagator of an acoustic wavefield.

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