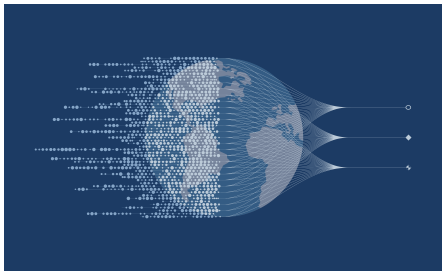

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# of sound from an explosive source placed in a shallow-water wedge or deep water near the ocean bottom

The predictions made in this paper about sound propagation situations referred to in the title are based on an analysis of the propagation of acoustic wave motion from an explosive point source of a wide spectral range placed in the corresponding benchmark models: a wedge of fluid and a half-space of fluid, each of which is over an elastic solid bottom where the shear-wave velocity is less than the speed of sound in water. In the wedge, source-to-receiver transmission proceeds by repeated reflections; in the half-space, via a single bottom reflection. Using a semi-analytical method of generalized ray, the transmitted wave motion in each model has then been evaluated exactly in the form of an unattenuated signal of three consecutive phases: the phase of the lateral waves, the phase of the source and the regularly reflected waves, and the phase of the Scholte interface waves. When attenuation in the bottom is accounted for, only low frequencies of the source spectrum can propagate over large distances with little attenuation and hence the Scholte-waves phase might dominate at remote receivers. It might then also dominate the propagation in the SOFAR channel, upon entering from a shallow-water wedge or deep water.

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