



Interaction of seismic and acoustic-gravity waves for the inhomogeneous model "Earth-Ocean-Atmosphere"

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This paper considers numerical-analytical methods of solving the problem of propagation and interaction of seismic and acoustic-gravity waves for the inhomogeneous model "Earth-Ocean-Atmosphere". Such a problem is of prime interest for interpretation of wave events occurring in non-homogeneous atmosphere and in an elastic half-space with earthquakes and explosions.

The seismic wave propagation is described by a system of the first order dynamic equations of the elasticity theory; the propagation of acoustic-gravity waves in the atmosphere are described by the linearized Navier-Stokes equations. The algorithm proposed is based on a combination of the integral Laguerre transform with respect to time, finite integral Bessel transform along the radial coordinate with a finite difference method along the vertical coordinate.

The paper presents some examples of calculation of seismic and acoustic-gravity waves for the inhomogeneous model "Earth-Ocean-Atmosphere" for various locations of a source.

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