Tsunami-driven plane acoustic waves in the atmosphere

Sergey Leble, author

Abstrak

ABSTRACT
A problem of analytical-numerical modeling of the plane wave propagation from an ocean surface to the atmosphere is considered. We are interested in the thermosphere impact of tsunami waves. We suppose that the transport of energy and the momentum from lower atmosphere to thermosphere heights is due to acoustic waves.
A set of expressions for the atmosphere variables (pressure, velocity, entropy) as a function of the atmosphere parameters, time and height is derived and illustrated by plots. The surface water wave parameters, typical for tsunami also enter final expressions for the atmosphere and ionosphere variables.