

## **of the effect of a fine layered structure of the lower troposphere on propagation of acoustic pulses**

The results of acoustic sounding of the lower troposphere by using detonation generators of acoustic pulses are presented. Such sounding method is based on a partial reflection of the acoustic pulses with shock fronts from vertical wind-velocity and temperature gradients continuously varying with height in the troposphere, and on the penetration of reflected signals into the acoustic shadow zone. The anti-hail acoustic system developed in Armenia (Talin) was first used as a generator of acoustic pulses for sounding of the troposphere. The experimental results have been compared with those obtained earlier in similar experiments carried out near Zvenigorod with the use of a special detonation generator of acoustic pulses. Due to high vertical resolution of the sounding method (about 1 m) the vertical profiles of layered effective sound speed fluctuations with vertical scales from a few to a few tens of meters have been retrieved in stably stratified atmospheric boundary layer (altitudes are in the range 250-650m). The influence of these fluctuations on the form and amplitude of low-frequency acoustic signals at a long distance from their pulsed source has been studied.

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