High-latitude computer-aided complex on measurement of atmospheric waves and electricity

O.I. Shumilov (1), E.D. Tereshchenko (1), A.N. Vasilyev (1), E.A. Kasatkina (1),
A.G. Struev (1), O.M. Raspopov (2), S.N. Kulichkov (3)

(1) Polar Geophysical Institute KSC RAS, Apatity/Murmansk
(2) St.-Petersburg Filial of IZMIRAN, St.-Petersburg
(3) Institute of Atmospheric Physics RAS, Moscow

A high-latitude computer-aided complex to measure atmospheric waves and electricity simultaneously is described. The complex had been installed in Polar Geophysical Institute, Apatity (Φ=63.3°) in August 2001. It consists of three spatially placed microbarographs for measurements of atmospheric waves in the period range of 1s-40 min, net device for air conductivity measurement "Electroprovodnost-2" and a device for measurement of vertical component of atmospheric electric field "Pole-2". Computer-aided system permits to get information in the frequency band of 0.0001- 1 Hz. The first results concerning some features of infrasound and internal gravity waves (mountain lee-waves) are considered. Experimental research of the acoustic-gravity waves in the polar atmosphere by integrated methods will allow us to install the correlation between dynamic processes taking place in different atmospheric layers. The Polar Geophysical Institute now develops a radiotomography method of ionosphere investigation at high latitudes. In addition to ionospheric radiotomography the information obtained by the complex will be helpful to study propagation of atmospheric waves and interaction between different atmospheric layers.
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