ACOUSTIC MOUNTAIN WAVES AND OSCILLATION OF SURFACE OZONE AT SVALBARD.

O.I.Shumilov (1,2), O.M. Raspopov (2), E.A. Kasatkina (1,2), and S.N. Kulichkov (3)
(1) Polar Geophysical Institute KSC RAS, Apatity, Murmansk Region, 184200 Russia
(2) SPbF IZMIRAN, P.O. Box 188, 191023 St.-Petersburg, Russia, oleg@or6074.spb.edu
(3) Institute of Physics of the Atmosphere RAS, Pyzhevsky per. 3, 109017 Moscow, Russia

The wave variations of surface ozone concentration (SOC) were detected at Longyerbyen (78^{O}N, 16^{O}E) at Svalbard. SOC was measured by the Russian chemiluminescent ozone analyser AM-01. The amplitude of oscillations reached 20-30% of the mean surface ozone concentration and the period was equal to 18-22 min. Surface ozone data were compared with some meteorological parameters (temperature, atmospheric pressure, wind speed, humidity. The same periods (18-22 min) has been found in variations of wind speed. It is shown that the period of ozone oscillations, place and time of their observations are in agreement with local wave picture induced by mountain terrain. It means that surface ozone variations are considered to be result of the action of acoustic mountain waves.