Search for atmospheric pressure variations possibly generated by explosion of the Vitim bolide

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The Vitim bolide exploded at the height of 30 km in the vicinity of Bodaibo town (Siberia) on 24 September, 2002, at 1650 UT. The explosion power, on various estimates, was from 200 kg to 200 tons in trotyl equivalent. The expected velocity of the infra-sound wave generated by the explosion is about 200 m/s. We examined atmospheric pressure measurements made by barographs installed at the 6 following observatories (in brackets the distance from Bodaibo and expected time of the wave arrival are indicated): Irkutsk (900 km, 1805 UT), Yakutsk (900 km, 1805 UT), Tixie (1600 km, 1905 UT), Norilsk (1700 km, 1910 UT), Oulu (4000 km, 2240 UT), Apatity (4000 km, 2240 UT). The barographs serve for neutron monitor data correction. In Apatity, a negative impulse of 200 mcb took place from 2240 to 2300 UT. In Oulu, a negative impulse of 150 mcb was detected from 2230 to 2315 UT. Besides, another negative impulse of 150 mcb was observed in Oulu from 2100 to 2120 UT which was not detected in Apatity. In Norilsk, there were two 10-minute impulses of 100 mcb centered at 1905 and 1935 UT. Three impulses of 100-200 mcb were detected in Yakutsk at 1730, 1800, and 1900 UT. In Irkutsk, two negative pulses of 100-200 mb were observed at 1745 and 1840 UT. In Tixie, a series of three 100 mcb pulses was registered from 1850 to 1930 UT. On our opinion, these observations show that all the impulses, including the Apatity one, are not related to the Vitime bolide.