Field explosion experiment: Observation of seismic wave and infrasound

Hiromitsu Oshima [1], Koji Kato [2], Hiroshi Aoyama [3], Akio Goto [4], Hiromitsu Taniguchi [5], Taniguchi Hiromitsu Research Group on Volcanic Explosion

[1] Earth and Planetary Sci., Hokkaido Univ, [2] Earth and Planetary Sci, Hokkaido Univ, [3] ERI., Univ.of Tokyo, [4] CNEAS, [5] CNEAS, Tohoku Univ

caldera.sci.hokudai.ac.jp

We have carried out the artificial explosion experiment by using KIRI-dynamites to establish an empirical low for evaluating the energy of the volcanic explosion from seismic waves and infrasonic waves.

Seismic initial phase is identified with refracted P wave. It is found that the amplitude is in inversely proportion to square of the scaled distance between the explosion center and the observation site.

Infrasounds excited by the explosion in the ground are accompanied by a positive pulse just after the initial phase, although infrasounds excited by the explosion on the surface of ground show the simple waveform like a blast wave.

We have carried out the artificial explosion experiment by using KIRI-dynamites to establish an empirical low for evaluating the energy of the volcanic explosion from seismic waves and infrasonic waves.

Seismic initial phase is identified with refracted P wave. It is found that the amplitude is in inversely proportion to square of the scaled distance between the explosion center and the observation site.

Infrasounds excited by the explosion in the ground are accompanied by a positive pulse just after the initial phase, although infrasounds excited by the explosion on the surface of ground show the simple waveform like a blast wave.