

## Proposal of infrasound observation by 'regional scale' networks

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Infrasound is sub audible sound, and that frequency range is cut-off frequency (e.g., 3.21 mHz for 15 Celsius isothermal atmosphere) to 20 Hz (that is lowest frequency of human audible band). Many natural phenomena (e.g., Great Earthquake, Volcanic Eruptions, Meteorite fall, Thunder, Sprite, and Aurora) generate infrasound.

Recent years, for the purpose of monitoring nuclear tests, a global infrasound network is constructed by CTBTO. The CTBT-IMS infrasound network has 60 infrasound stations and each station contains at least 3 infrasound sensors, they can detect a some-kiloton TNT level atmospheric explosion in range of some 1000 kilometers. This network is enough for monitoring nuclear tests, but much sparse for detecting and analyzing in detail of natural infrasound phenomena

We propose to develop 'regional scale' infrasound observational networks in the Japanese Islands and around the Showa Station, Antarctica. It is expected that, these relatively dense networks provide to us, not only new information of infrasound phenomena, but also new views of seismology and other studies. In addition, we anticipate that these relatively dense networks of listening posts monitoring Earth's atmospheric shell will some day become as indispensable as the seismic networks that monitor's Earth's solid interior.