# Infra-Sound Observation Project (ISOP)1. -Pilot observation at Sendai-

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Infrasound is sub audible sound (pressure wave), and that frequency range is cut-off frequency of sound (e.g., 3.21 mHz for 15 degree Celsius isothermal atmosphere) to 20 Hz (that is lowest frequency of human audible band). Many natural phenomena (e.g., Earthquake, Tsunami, Volcanic Eruption, Icequake, 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 4 infrasound sensors (arrayed station), 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 organize a community called Infra-Sound Observation Project (ISOP) for propose of to develop 'regional scale' infrasound observational networks in the Japanese Islands and around the Syowa Station, Antarctica. The regional scale network can detect weaker infrasound, and its enable us to analyses more small and local infrasound phenomena. 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 interdisciplinary 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 local seismic network that monitor's Earth's solid interior.

In this talk, we report the current status of the development of the infrasound observation system and one element pilot observation at the rooftop of RCPEV C-building, Tohoku University. This is the first step for developing infrasound observation network.