[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-TT Technology & Techniques

[M-TT38]Brand-new scope of coupling geophysics being established by infrasound and associated waves

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Infrasound and associated wave studies are recently focused on coupling waves with long-distance and vertical propagation characteristics. Such kinds of waves, having with coupling process between the atmosphere and the surface of ground and ocean, are linked with elastic waves in lithosphere and oceanic sphere, as well as to atmospheric regions up to the upper atmosphere, playing a role of generating many kinds of wavelike turbulences in thermosphere. Moreover, whole on the globe, these waves excited depending on the latitude regions, as well as on the environmental regions, such as snow ice, desert, rainforest, mountain, ocean, etc., have their own characteristics. These waves can be excited by large-scale geophysical events like volcanic eruptions, tsunami, thunderstorms, etc. as well as artificial explosions, propagating with long distance. In this session, we would like to discuss such "coupling geophysics" by using many new or well-known investigated data and simulations of infrasound and associated low frequency waves. It can combine multiple spheres in geophysics and bring a brand-new scope of geophysics. Your contributions from many regions are welcome!

[MTT38-P01]Seismic and Infrasound recordings observed shockwaves and seismic waves of a large bolide in Tohoku, 31 October 2016

★ Invited Papers

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A large bolide which transferred from east to west in Tohoku around 05:43 31st October 2016 was observed at NIED Hi-net seismograms and barometers.

Observed Signals are very impulsive of about 10Hz and the figures seem opposite N character in the stations where estimated to be transferred right overhead. We estimate that the bolide transferred faster than a sound speed, therefore these figures of observed signals became impulsive. While, in several stations which are a bit far from overhead ones, around 3Hz signals were observed a bit before 10Hz impulsive signals. We supposed that these seem to be seismic waves transferred after shockwaves transferred to the ground in shortest path on the way of flying.
We could estimate the roughly trajectory and suppose this bolide was not burst on the way of flying by many seismic recordings of Hi-net located in dense.