

## Relation between smallest microtremor amplitudes and largest seismic oscillations observed by TRIES

TANAKA, Torao<sup>1\*</sup> ; OKUBO, Makoto<sup>1</sup>

<sup>1</sup>NOTHING

In order to investigate the relation between the smallest spectral amplitudes of microtremors and largest seismic spectral amplitudes, we started data analysis of microtremors and seismic data at 02TRIES and 00Togari. By the discrete Fourier transform we calculated the spectral amplitudes and frequencies of microtremors recorded at 00Togari just before the first arrival of seismic waves in the frequency range of 0.1Hz from 2.0 to 4.0 Hz. Similarly we calculated the spectral amplitudes and frequencies of seismic waves by the discrete Fourier transform in the same frequency range of 0.1Hz from 2.0 to 4.0Hz. We obtained the ratio of relative amplitudes of the smallest amplitude of microtremors and largest amplitude of seismic waves to those at the station 02TRIES. By taking the relative amplitudes of microtremors and largest seismic amplitudes to those at the station 02TRIES, we can separate the site effects at 00Togari caused by the ground soil from the amplitude, modifications caused by the magnitude, source mechanism and position, lay path, and so on. Preliminary results show that the smallest amplitude of microtremors might generate large seismic amplitudes which will increase the amplitude by the magnitude, source mechanism, wave path, the distance to the hypocenter and so on in future.

Keywords: microtremor, seismic waves, discrete Fourier transform, ground soil, maximal amplitude, site effect