

## Comparison of seismic waveforms observed by microbarograph with broadband accelerometer

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As already discussed in the papers, sensitive Microbarographs can detect seismic waves without going off the scale and supplemental measurements made with accelerometers.

Hakone volcanic activity increased from April 2015. To monitor Hakone volcanic activity, we started to measure seismic and pressure signals using a seismo-acoustic sensor that is a combination of a Broadband Accelerometer (Developed by Quartz Seismic Sensors, Inc., USA) and a Sensitive Microbarograph (Manufactured by Paroscientific, Inc., USA) in August. Both sensors use precise quartz crystal resonators to archive parts-per-billion resolution. The single axis accelerometer records the vertical component of ground accelerations.

Earthquake of Mj1.9 occurred at a depth of 2km in Hakone volcano area at 20:59:50 UTC on the 24th of September 2015, and its seismic signal was observed by both the microbarograph and accelerometer. The distance between the epicenter and the observation site is approximately 2.4 km. The microbarograph recorded similar waveforms to that of the accelerometer.

In this presentation, we discuss the similarities and differences of the seismic signals observed by the microbarograph and accelerometer.

Keywords: Sensitive Microbarograph, Broadband Accelerometer, seismic response

