

Seismic ground motion and subsurface structure of the boundary region between the Hokusetsu mt. and the Osaka basin

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Observations of seismic ground motions and microtremors were carried out in the boundary region between the Hokusetsu mountains and the Osaka basin, to model the 3-D subsurface structure of the Osaka basin, and to examine the features of seismic motions in the region.

Both seismic motions and microtremors show the following features in the depression zone sandwiched in between the Hokusetsu mountains and the Senri hills: (1) H/V spectral ratios show a clear predominant frequency at 0.3 Hz. (2) Fourier spectral amplitudes of EW-component are larger about 30% than those of NS-component.

We verified these phenomena using simple theoretical models.