

Comparison of characteristics of Velocity Seismometers using the wide frequency-band shaking table

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Many seismometers used for the observation of microearthquakes use an electromagnetic transducer.

These seismometers have some moving coils and some nonlinear springs. When the amplitude grows, the influence of the nonlinearity appears increasingly. Therefore, it is necessary to know the range where linearity of the amplitude wave form is valid to observe the ground motion accurately.

Moreover, to observe microearthquakes densely, downsizing and the lightweighting of the seismometers are required.

But, it is difficult to design the seismometer that has a concerned natural frequency, linearity and sensitivity.

Developing the KVS-300, we found characteristic of the non-linear structure.

We examined the comparison of characteristics of seismometers (L-22D, L-4C, and CDJ-S2C-2) by using a wide frequency-band(0-40Hz) and high dynamic range(stroke10mm) shaking table.

The proximity sensor was used to track the position of the shaking table. That sensor has the high accuracy of resolution 0.002mm