

Seismic exploration using three-component seismic array antenna at Unzen volcano, Japan.

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A seismic exploration experiment was made at Unzen volcano from 15 through 24 of December 2001. Three VIBROSEIS vibrators were used as sources in the reflection survey along the road running just to the west of Unzen's summit. During the experiment we operated a seismic array composed of 34 three-component sensors with portable data-loggers near the middle part of the exploration line. I tried to obtain the information on the underground structure under the Unzen volcano by estimating the intensity of reflectors and scatterers. As the structure under the volcano is very complicated, many reflectors and scatterers should exist. In this study, I used the method of semblance that is a technique to estimate the correlation among waves recorded by the seismometers. I supposed the semblance value the intensity of scattering. The result is consistent with the result that is obtained by the reflection survey.