Seismograms obtained by three components rotation and translation seismometers

Takeo Moriya [1]

[1] Earth and Planetary Sci., Hokkaido Univ.

Seismograms observed by three components of the rotation and translation seismometers are shown by the poster session. The rotation seismometer have a resolving power of 1 micro rad/s. The seismometers were set up at Mitsuishi station in the southern Hokkaido (MUJ), 1998. Many seismograms were obtained by the six components observation. These contains local earthquakes whose Magnitudes were 2 to 5, and tele-seismic signals of earthquake whose magnitude of 7.8. The amplitudes of the rotation components seismic signals distribute from 3 to 7 micro rad/s. for local earthquakes. For the large earthquake M:7.8 (distance: 48deg.) , 30 and 60 rad/s for P and S phases were observed.

Seismograms observed by three components of the rotation and translation seismometers are shown by the poster session. Targets of the observation are to accumulate the fundamental information about the rotation movement in the earthquakes and to evaluate detectability S and surface waves. Rotation components seismometers were developed by using two pairs of translation seismometers having a natural frequency of 2 Hz which prolonged to 0.2 Hz by a equalizer electronics circuit. The rotation seismometer have a resolving power of 1 micro radian in the frequency band higher than 2Hz, and 2 to 4 micro radian in the lower frequency band. The seismometers were set up in the horizontal tunnel of Mitsuishi station operated by Hokkaido University (MUJ), on 17, November, 1998. Observation is now continued. Many seismograms were obtained by the six components observation. These contains local earthquakes whose Magnitudes were 2 to 5, and tele-seismic signals of large earthquake whose magnitude of 7.8. The amplitudes of the rotation components seismic signals distribute from 11 to 11111 micro rad/s. for local earthquakes. For the large earthquake M:7.8 (distance: 48deg.) , 1 and 3 rad/s for P and S phases were observed.