

Atmospheric pressure change observed during the 2007 Noto Hanto earthquake

Shingo Watada[1]; Shoji Sekiguchi[2]

[1] Earthquake Research Insititute, U. of Tokyo; [2] NIED

Fluctuation of atmospheric pressure of about a few Pascal was observed during the 2007 Noto Hanto earthquake by a microbarometer co-located with broadband seismometers of F-net, a broadband seismic network operated by NIED, in central Japan. At each site, the largest pressure change with a period less than 20 sec occurs at the arrival of surface waves in the ground motion. The pressure fluctuation propagates at the speed of seismic surface waves at about 3-4 km/s, much faster than the sound velocity in the atmosphere. This feature suggests that the largest pressure change is caused by the acoustic coupling between the ground and the atmosphere at each site.

We are investigating to detect the sound waves generated in the epicentral region and propagated through the atmosphere with the speed of the sound velocity to the microbarometers.