

Dense microtremor measurements near the damaged area during the Niigataken Chuetsu-oki Earthquake in 2007

Kentaro Motoki[1]; Hiroaki Yamanaka[2]; Kazuoh Seo[1]

[1] Built Environment, Tokyo Tech.; [2] TokyoTech.

We conducted aftershock observation and microtremor measurements on Kashiwazaki City to understand the effects of surface geology for the area damaged during the Niigataken Chuetsu-oki Earthquake in 2007.

The aftershock motions were observed significantly high amplitude in Kashiwazaki city area. The spectral ratios against the record at the rock site show that the predominant periods are around 1 second. This predominant period can be confirmed in the H/V spectral ratio of the microtremors. The shapes of the H/V of the microtremors are quite similar to that of the H/H spectral ratio of the aftershock motions, and the remarkable correlation can be recognized in peak period and peak value. But it could not be recognized in the correlation between the damage distribution and the peak period and the peak value of the H/V spectral ratio.