

## Site amplification at seismic intensity stations in Fukuoka Prefecture

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We extract site amplification characteristics at the seismic intensity meter stations deployed by Fukuoka prefecture from the strong-motion records observed at the stations. In extracting the site amplification factor, we employ the spectral inversion method of Kawase and Matsuo (2004). Kawase and Matsuo (2004) estimated the site amplification characteristics at all stations of K-NET, KiK-net, and Japan Meteorological Agency's seismic intensity meter stations by use of spectral separation technique, where 36 stations in Fukuoka area are included. Here we analyze strong motion records at 98 seismic intensity meter stations of Fukuoka prefecture. In spectral inversion analysis, we need one reference station, and adopt station UMI (KiK-net) because UMI is laid on a granite rock site. Kawase and Matsuo (2004)'s method takes into account the site characteristics at the reference station so that the extracted site amplification characteristics are not relative values but absolute values. In our results, at station KASUGA, for instances, we can see two outstanding peaks which take value of about 7 around 2 Hz and 5 Hz. At station OONOJO, there is only one peak around 2Hz taking value of 15, although station OONOJO is located near the station KASUGA. The largest amplification factor among all stations we analyzed is found at station SHINGU at about 1.2 Hz taking peak value of 24. Besides these stations, we can also see large values about 13 (2.5 Hz) and 9 (3.5 Hz), at stations HONAMI and KAITA, respectively. With reference to a geomorphologic classification map, the geomorphologic categories of these highly amplifying stations fall into sandy ground, swampy ground, alluvial fan, or the bottom of a ravine. As a whole, it seems that the morphological conditions of stations are well correlated with site amplification characteristics of them. Morikawa et al. (2005) performed tremor observation at 14 stations out of 98 stations used in our study. The H/V spectra obtained by them show quite good agreement with our results at about the half of those 14 stations.

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