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Site amplification characteristics at the strong motion observation sites in Iwate Prefecture, Part 2

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Site amplification factors for JMA seismic intensity at each observation points were evaluated from the Iwate-Miyagi Nairiku Earthquake in 2008 records of seismic intensity network, K-NET and KiK-net in Iwate Prefecture. A site amplification factor for an observation site is defined by the difference between observed seismic intensity and calculated one by using empirical attenuation equation for distance. The attenuation empirical equation was estimated by regression analysis for seismic intensities observed with an underground seismograph at the KiK-net stations in Iwate Prefecture. Estimated amplification factors of seismic intensity were ranging from -0.08 to 2.05. The maximum value obtained at the Noda site, Noda Village was 2.05, and the minimum value obtained at the KiK-net Ashiro site was -0.08. The estimated amplification factors was compared with amplification factors for the four earthquakes estimated by Yamamoto et al.(2008). The amplification factors of five earthquakes were averaged for each site. The amplification factors evaluated at the KiK-net Tamayama site, the Ohno site, Hirono Town, the Fukuoka site, Nihone City, the KiK-net Ninohe-higashi and the Minami-Yahaba, Yahaba Town site were large. The several sites where the factors were large had been moved by JMA.

Keywords: seismic intensity, Iwate Prefecture, site amplification factors, KiK-net, The Iwate-Miyagi