

Report for resonance of seismometer in NIED Hi-net station

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In the stations of NIED Hi-net, the spectrum peak about 20Hz exist for the seismograph of two horizontal elements. This peak is a caused resonance between containers where the borehole wall and the seismograph are stored as reported in Kasahara et. al. (2000). The peak of the resonance has been improved outside the measurement band by adding the Saf treatment device to the observation container to control this resonance now, and the stations of the uncorrespondence and the observation point that cannot be controlled well remain, too. In the main enumeration, the resonating observation point decided to be calculated from spectrum information on the noise at the time zone that seemed that there was no shake of the earthquake about each station of 659 NIED Hi-net it. Concretely, the spectrum of the data of ten seconds that seemed that the earthquake wave had not come it was taken, and it was confirmed whether to have the peak in the band of the frequency (30Hz or 40Hz) cut from 20Hz with AD looking. As a result, the peak from which the resonance seemed to go out was confirmed to about 20Hz in the numerical observation point. It confirms it while changing several-time periods at the same time because reliability is scarce in one noise data in this technique. Therefore, it can be confirmed that it can be investigated whether the peak of the resonance is lost when the resonance measures are given when the observation equipment is improved from the borehole by repairing the seismograph before and behind that, and measures are actually effective. Next, when it tended to be similar was investigated, a remarkable tendency was able to be seen similarly still by about 20Hz with these stations also the spectrum at the earthquake.