

Seismic Intensity prediction on Low Seismicity area

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Tono research institute of earthquake science (TRIES) operating the high density seismograms network (HDSN) at Tono area, Gifu prefecture, Japan (ex. Aoki *et al.* 1999, Okubo 2011a). Aoki and Okubo (2009) researched site amplification of seismic motions (peak-to-peak acceleration) using with approximately 50 seismic stations on E-W 30 km and N-S 20 km area. However, their amplification distribution does not indicate clear correlation with the seismic shake maps, which had estimated by the cabinet office of Japan or the NIED.

We recalculated seismic intensity of each stations by micro earthquakes, and estimated very localized amplification of seismic intensity in surface structures by using HSDN's surface seismometers and the reference borehole seismometer. Because we used statistics approach with reference borehole seismogram, our procedures can also apply to the other region whose inter-plate and/or crustal seismicity is not so high.

Thus, estimating the localized seismic intensity amplification variation will be helpful to construct urban or disaster mitigation plan on semi-mountain and/or low seismicity area. Additionally, our seismic intensity amplification variation map has correlation with gravity anomaly map and geological map. Therefore, we are considering that seismic hazard map can be refined by combining with the other geoscientific data.

Keywords: micro seismic event, borehole seismometer, Seismic Intensity distribution anomaly, community protection