

## Estimation of the underground structures in Hikone city using array microtremors measurements

# Boming Zhao[1], Ken Miyakoshi[1], Takashi Akazawa[1], Anatoly Petukhin[1], Ikuo Cho[1], Kazumasa Fukumoto[2], Teizo Fujiwara[2]

[1] G.R.I., [2] Univ. of Shiga Prefecture

In this study, S-wave velocity structure was estimated by fitting microtremor array observation and obtained dispersion curves of Rayleigh wave at 4 sites of JMA, SBS, HRT, and TKM in Hikone city on the Oomi Sedimentary Basin. In same region, we estimated structure models using 6 layers on other 3 sites of SGC, TYS, and HTS previously.

Microtremors were observed by both seismic arrays in radius from 0.5km (small array) to 1.0km (large array) around JMA and HRT, one array in radius 0.5km around SBS and TKM sites, respectively. For the analysis of the phase velocity, Frequency-Wavenumber Spectrum Method (FK) was used. The layered structures of all sites have common characteristics same with in SGC and TYS, and can be modeled with the six layered structure model through changing the depth only. As the results, we found that the bedrock depth in TKM is about 0.3km, SBS is 0.5km, HRT is 0.7km, and JAM is 1.0km.