Estimation of bedrock structure in the area damaged by the 1909 Anegawa Earthquake

Hitoshi Morikawa [1], Masao Komazawa [2], Sumio Sawada [3], Kenzo Toki [1], Masataka Tanimoto [4]

[1] Graduate School of Civil Eng., Kyoto Univ., [2] Geological Survey of Japan, [3] DPRI, Kyoto Univ., [4] Graduate School of Civil Eng,, Kyoto Univ.

The Anegawa Earthquake of August 14, 1909, brought serious damage to the areas of Torahime-cho Azai-cho Kohoku-cho. In this area, anomalous distribution of severe damage to wooden houses was observed: there were remarkable differences of the damage among villages whose distances were less than 800m. Our objective is to investigate the subsurface structure, and to discuss its effects on damage distribution. For this, combined analyses of microseisms and gravity anomaly were carried out on the basis of (1) two-site spatial auto-correlation method for velocity dispersion of Rayleigh waves, (2) horizontal-to-vertical spectral ratio of microseisms for depth to bedrock at each site, and (3) Bouguer anomaly for density structure of the target area.