

Estimation of Engineering Bedrock Using Some Geophysical Exploration to Evaluate Earthquake Ground Motion

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Earthquake ground motions are adversely affected by shallow ground structure with shear wave velocity of less than 400 m/sec. In seismic design for road or railway facilities, it is essential to investigate the subsurface structure in detail. In order to estimate the ground structure, the boring exploration is mainly used. The boring exploration, however, may have much difficulty when the ground condition is poor and the engineering bedrock is very deep. In this study, the authors presented another estimation method using microtremor and gravity survey. Moreover, we clarified the importance of structure estimation by calculating the ground motions based on the estimated subsurface structure.