

H/V spectral analysis of micro-tremor in Kochi Plain

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Kochi is located around source region of the Nankai Earthquake. Soil/basement structure is important to estimate strong ground motion. Modeling the soil/basement structure conducted based on boring core database. In this study, we conducted micro-tremor H/V spectral analysis in Kochi Plain. This technique is cheap, quick and easy way to study soil/basement structure. We observed at 250 points in a year in addition to previous 130 points. Dominant periods of H/V spectra show about 1 sec around Urado-Bay region. Thicker soft ground causes strong ground motion in this region. Generally dominant period is correlated to thickness of Alluvium layer. However, we sometimes detect dominant period variation caused by deeper structure. By detail observations at recognized steep variation of basement, we detect corresponding variation of dominant periods. Spectral peaks with around 1sec periods widely appear in Kochi Plain. Spectral shapes are determined by this peak and higher modes, spectral shape due to Alluvium layer, and more complicated structure.

Keywords: Soil/Basement Structure, H/V spectra, Strong Motion, Kochi Plain, Dominant period