

Review of study on microtremors and application for subsurface structure modeling

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The study on microtremors start by Kanai(1954). In his study, the relation between the subsurface structural model and the predominant period.

The method of the spectral ratio of two sites are devised. The influences source and path is removed.

From the 1980s, using spectral ratio between horizontal and updown component the subsurface structural model was estimated(Arai and Tokimatsu,2005). They assumed the microtremor consists by surface waves. On the other hand Nakamura(1988) assumed the microtremor consists by the SH waves.

H/V spectral ratio is using earthquake damage assumption investigations. Using H/V spectral ratio and phase velocity of Rayleigh wave, R/V spectral ratio of earthquake ground motion, the subsurface structural model from several meter to several kilometer depth are estimated in the Kanto area.

Keywords: Microtremors, Spectral ratio, S-wave structural modeling