

Estimation of S wave velocity structures using phase velocity of Rayleigh and Love waves in microtremors.

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Phase velocity of Rayleigh wave and Love wave were extracted from microtremors, and the underground structure was estimated using dispersion relation. Microtremors array observation was carried out with three component seismometers at the school of 7 sites in the Morioka City, Iwate Prefecture. For the analysis of the phase velocity, spatial autocorrelation method was used. The final models of underground velocity structure were by fitting observed values of both phase velocities to calculated values. As the results, the underground structure estimated by the analysis matched known data, while dispersion relations of both surface wave were satisfied.