

## Three-component microtremor array survey at Morioka area by using Rayleigh and Love dispersion curves and H/V of microtremors

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Three-component microtremor array experiments at 24 sites of Morioka area were carried out by using phase velocity dispersion curves of Rayleigh- and Love- waves. Based on three-component SPAC method, the Rayleigh dispersion curves were estimated from array records of vertical microtremors and the Love dispersion curves were estimated from array records of horizontal microtremors. Estimated dispersion curves of Rayleigh and Love waves were ranging from 0.5 Hz to 20 Hz in frequency. S-wave velocity profiles were determined for fitting calculated phase velocities of Rayleigh and Love waves to the observed ones. Peak periods of microtremor horizontal to vertical ratios (H/V) were also used simultaneously, assumed that the peak period of observed H/V was a peak period of the fundamental Rayleigh wave spectral ratio. Three or four layers S-wave profiles were determined at the observed area. The maximum depth of the basement at the site of Yahaba junior high school where was located at the southwest area was about 500m. The depths of the basements at the area were gradually increasing from the central part to the southwest part. At the northwest part, the S-wave velocities of shallow layers were small, and they were about 200 m/s. At the south area, the depths of the basements were gradually increasing from east-northeast to west-southwest. The S-wave velocities at the south area were large, and they were about 500 m/s. Love power fractions slightly varied with areas, but almost were about 50%.