An estimation of shear wave velocity structure of Niigata plain by microtremor array observations

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In this study, shear wave velocity structure was estimated by the inversion of the phase velocity obtained by microtremor array observations performed at 5 points on the Niigata plain, and the ground-motion characteristics were evaluated using the inverted underground structure. It was indicated that the underground structure of the Niigata plain can be modeled using 4 layers with shear wave velocities of 0.4, 0.8, 1.5 and 3.0, respectively. The site amplification factors and the group velocities of surface waves were calculated using the inverted structure. It was indicated that ground motions with the period about 10 seconds are dominant at the sites located near the coast due to thick sediments.