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## S wave velocity structure model and measurement technique estimated from microtremor observation in Chiba Prefecture

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In this study, a detailed microtremor survey is executed in the whole area of Chiba Prefecture, and a measurement technique is examined to upgrade an existing underground structure model by using the H/V spectral ratio and microtremor array analysis. We proposed the arrangement method of microtremor measurement points the observation technique, and the method for analysis, based on the microtremor measurement result in Chiba Prefecture that had executed it last year.

Moreover, integration techniques of a shallow part and a deep part of sedimentary layers are examined. A method of developing the microtremor measurement and a method to make integrated underground structure model were examined by using the microtremor measurement results of microtremor array observations and single point observations in the whole area of Chiba Prefecture.

We found that the frequency range from 0.2Hz to 5 Hz is available for our array observation technique.

As a result, it has been understood to obtain expected phase velocity (0.2-5Hz) enough from observing about 30 minutes by observing about one hour for Chiba Prefecture as 400m in radius of the array, 200m, and 100m on the road on daytime of the weekday, and arranging a small array of about 30-50m internally in addition in all points where the observation was executed this time.

The method for construction of more best shallow and deep integration ground model is scheduled to be examined by analyzing collaboration inversion by assuming present Shallow and deep integration ground model to be an early model, and using the result of the microtremor array and the microtremor of a single point in the future.

**Keywords:** microtremor, Seismic Hazard Maps, velocity structure, structure model, strong-motion