

Examination of the creation technique of integrated model of shallow and deep structure

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In this study, basic data required for the foundation model creation of Chiba and Ibaraki Prefecture was collected. In order to inspect the created model in detail Shallow and deep integrated structure model (model of first geology) creation was carried out, and the method was inspected.

Creation of Shallow and Deep integrated structure model evaluated by an order shown below.

- (1) Creation of initial Shallow and Deep integrated model (geological model)
- (2) Joint inversion processing by microtremor data + seismic observation data
- (3) Examination of the extended method to field structure
- (4) Evaluation of the S wave amplification characteristic and the periodic characteristic (SH and finite difference method)
- (5) Inversion processing by single point microtremor data(H/V spectral ratio)

Finally, Shallow and Deep foundation structural models of the Chiba and Ibaraki whole region were created by a 250m mesh unit. The foundation structure model tuned up by this examination became the accuracy of the whole broadband, and a thing which the neighboring periodic characteristic and S wave amplification characteristic improve sharply for 2 to 0.5 second especially.

Keywords: integrated model of shallow and deep structure, Strong-motion, Microtremor measurements, Geology stratigraphy, S-wave velocity