3D velocity structure of Oita prefecture, Kyushu, Japan for strong ground motion simulation

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For reliable strong ground motion prediction, valid velocity structure is essential. We constructed a 3D velocity structure of Oita prefecture up to engineering bedrock (Vs > 500 m/s) and finer 3d structure for Oita Plain additionally. In this study, we observed, collected, and compiled data obtained from microtremor surveys, ground motion observations, boreholes etc., and constructed velocity structure by modifying published one. Velocity structure up to the engineering bedrock is modified so as to reproduce the observed phase velocity and H/V ratio. Finer structure of the Oita Plain is modeled, as 250m-mesh model, with empirical relation among N-value, lithology, depth and Vs, using borehole data, then validated with the phase velocity data obtained by the dense microtremor array observation (Yoshimi et al., 2016).

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