

3-D strong motion simulation in the Osaka sedimentary basin during the 2000 Tottori-ken Seibu earthquake

Boming Zhao[1], Takao Kagawa[2]

[1] G.R.I, [2] G.R.I.

<http://www.geor.or.jp>

This paper presents strong motion simulation in the Osaka sedimentary basin during the 2000 Tottori-ken Seibu earthquake by 3DFD method. The numerical simulation is performed for up-dated structure model of the Osaka basin. The new model is completed from shaping up (fitting) basin edge structure, adding basement depth information based on P and S wave travel time of strong motion records, adding data by seismic refraction surveys and so on. A characterized source model of the 2000 Tottori-ken Seibu earthquake is introduced. The results indicate that the characteristics of wave propagation in Osaka basin have been modeled reasonably by our 3D structure model. We can simulate direct S wave and main surface wave propagation in long period (frequency range is not greater than 1.0Hz). However, the surface wave propagation caused by structure of east basin is not well simulated at present.

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