

## An Effect of Crust Modeling and Uncertainty on Seismic Structural Response

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Estimation of seismic structural response with high accuracy has an important role on reduction of earthquake disaster. In this article, we estimate an effect of crust modeling and uncertainty on seismic structural response using realistic basin structure. Firstly, Realistic Kanto basin velocity structure is constructed based on (Tanaka et al, 2006) etc. Earthquake motion is numerically simulated using this original model, and compared with observed data in each frequency domain. In this numerical simulation, to model surface and interface accurately, we use a finite element method with multiresolution structured and unstructured element, which can achieve efficient crust modeling and wave propagation computation in complicated geometry domain with the identical accuracy to general finite element method. Next, earthquake motion of the same earthquake is numerically simulated in models which have flat surface and shifted interface. An effect of crust modeling and uncertainty on seismic structural response is examined using these simulated earthquake motions.

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