

Broadband strong motion simulation for the Beppu-Haneyama Fault Zone based on the recipe

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We studied strong ground motions of hypothetical earthquakes along the Beppu-Haneyama Fault zone. Synthetic ground motion has been calculated with a Hybrid technique composed of a stochastic Green's function method (for HF wave), a 3D finite difference (LF wave) and 1D amplification calculation. Fault model consists of three fault planes, "Funai", "Misa", and "Hoyo strait", is employed, where the locations are determined from reflection surveys and active fault map. The rake angles are calculated with a dynamic rupture simulation considering stress field around the faults (Ando et al, JpGU-AGU2017). Fault parameters such as the average stress drop, a size of asperity etc. are determined based on the recipe (Irikura & Miyake 2001, 2011). Three dimensional subsurface velocity structure model of Oita prefecture that was newly constructed based on the results of surveys and observations for the comprehensive research (Yoshimi et al., JpGU-AGU 2017) has been used.

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