

Validation of Bedrock Motion Estimation Based on Time Domain Non-linear Analysis

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We confirmed the effectiveness of a proposed method for estimating earthquake ground motion from observation waveforms at the ground surface based on time domain nonlinear analysis. Specifically, earthquake ground motion was estimated using the proposed method for various kinds of earthquake motion and ground conditions, and the results were compared with those of a conventionally used frequency domain method. The result confirmed that the proposed method can estimate more appropriate earthquake ground motion in all the cases investigated here. Therefore, the proposed method is an effective method for estimating earthquake ground motion, appropriately taking into account the effects of the ground non-linearity.