

## Application and verification of the 'Recipe' to the strong-motion evaluation for the 2005 west off Fukuoka earthquake (part 2)

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We had applied a methodology of strong-motion prediction (Recipe) summarized by the Headquarters for Earthquake Research Promotion to the 2005 west off Fukuoka earthquake (Morikawa et al., 2007). We had pointed out that improvements of our underground structure model were required. Here we recalculate strong-motions using a revised underground structure model constructed by Fujiwara et al. (2007). We apply a new 7.5-arc-second engineering geomorphologic classifications (Wakamatsu and Matsuoka, 2007), and change empirical relations in estimations of peak ground velocities and seismic intensities on the ground surface into recent ones. Furthermore, we construct an underground structure model shallower than the engineering bedrock in Fukuoka city area, and calculate waveforms on the ground surface from those on the engineering bedrock by applying an equivalent-linear method (Schnabel et al., 1972) using a computer program 'DYNEQ' (Yoshida and Suetomi, 1996).

As the result, a predominant period of calculated strong-motions on the engineering bedrock is improved at some regions. We find that seismic intensities estimated by empirical relations are different from those calculated by waveforms. It implies that the construction of shallow underground structure model is quietly important in estimation of strong-motions, especially seismic intensity, on the ground surface.