Comparison of source model for strong motion prediction based on short-period level with existent source models

Kazuo Dan[1], Kazuo Dan[2], Motofumi Watanabe[3], Toshiaki Sato[2], Toru Ishii[4]

[1] Izumi Research Institute, Shimizu Corporation, [2] Ohsaki Research Institute, Inc., [3] ORI, [4] Ohsaki Research Institute

Dan et al. (2000) formulated effective stresses on asperities and backgrounds for predicting strong motions due to future earthquakes. They treated the seismic moment, the fault area, the short-period level, and the asperity area as given values, without taking account of physical relations among these source parameters. After evaluating the interaction of the asperities, we showed a physical interpretation of their source model, and compared it with existent source models: a specific barrier model by Papageorgiou and Aki (1983), a multi-crack model by Irikura (2000), and a multi-asperity model by Gusev (1989).