

## Various Topics on Engineering Applications of Strong Ground Motion Prediction near Active Fault

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We report three topics on the engineering applications of the strong ground motion prediction near active faults. First, although the recipe for predicting strong ground motions is a very useful tool for engineering applications, it is important to know its limitations, especially for simulating ground motions near faults. This is because the recipe is based on a very simplified source model. Second, we need to develop a new recipe for predicting ground motions including the effects from the surface faulting (e.g., the fling step and the inclined ground level), which is excluded in the current recipe. Third, we need to understand the differences between the simulated strong ground motions for aseismic design and risk management. The former must be stable for several decades under the consensus among experts and society. On the other hand, the latter is simulated considering the newest information and methodology (the source, structures, and so on), and may exceed the former results for aseismic design, which is useful for the risk and crisis management of the target facility.

Keywords: Active Fault, Recipe for Predicting Strong Ground Motions, Forward Directivity Pulse, Fling Step, Strong Ground Motions for Aseismic Design, Strong Ground Motions for Risk Management