Ground motion evaluation using dynamic source models

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Rupture dynamics is considered in many of the recent studies of ground motion prediction. Slip velocity functions approximating to those of dynamic rupture simulation are widely adopted in kinematic source models. Complete dynamic and pseudo-dynamic source modeling have just started to be applied to ground motion predictions. For the setting up of the dynamic parameters, values estimated for the past earthquakes are compiled and statistically analyzed to obtain empirical relationships about the dynamic parameters. On the other hand, procedure to estimate fault-specific distribution of dynamic parameters is proposed based on variation of cumulative slips.

In this presentation, I intend to discuss the utility, validity and applicability of present dynamic source models as input in quantitative ground motion prediction.