Hybrid simulation of ground motions from the 1994 Northridge earthquake

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In this study, we simulate strong ground motions from the Northridge earthquake by the hybrid scheme. We used a simplified source model composed of three asperities based on the inverted source model. First, we simulate long-period ground motions using 3-D velocity model for the San Fernando valley. Next, short-period ground motions are simulated stochastically by the Boore's method under considering the local site effect. Finally, both ground motions are conbined in the time domain. The comparison between the synthetics and the observed ones showed that our simplified source model is useful and the hybrid scheme is powerful for simulation of broad-band strong ground motion.