

The Evaluation of Design Ground Motion Considering with the Occurrence of Massive Earthquakes

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Design standards for railway structures and commentary (Seismic structural design) were revised in 2012 and the applicable cases where the L2 earthquake motion can be evaluated with a simplified method are clearly defined. In the construction site which doesn't correspond to these cases, it is required that the detailed study for the evaluation of the L2 earthquake motion is conducted based on the strong ground motion prediction method. In Japan, there are many plates where large-scale subduction zone earthquakes such as the Nankai trough megathrust earthquake ($M_w 9.0$) could occur and many active faults where the earthquakes of $M_w 7.0$ or greater could occur. In this report, some case studies of the simulation of ground motions conducted in Shikoku region with strong ground motion prediction method are shown. The design ground motion compatible with the target non-linear response spectrum is evaluated from the combination of simulated ground motions.