



Tsunami effects at Korean Nuclear Power Plant Sites by Plate Boundary Earthquakes

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Great earthquakes have occurred at the Nankai Trough due to the subduction of the Philippine Sea plate beneath Honshu, Japan. The 1707 Hōei tsunami associated with the Mw 8.7 earthquake, in particular, was the largest event generated in this area. The Nankai Trough is one of the most earthquake-prone area near Japan. And the tsunami affected to Korea according to a Korean historic literature.

In this study, new hypothetical plate boundary earthquakes (Mw 9.6) ruptured simultaneously from the Nankai Trough to the Ryukyu Trench (NTRT) are proposed and applied to evaluate the tsunami effects at the Nuclear Power Plant Sites in Korea. In order to make reasonable tsunami sources the asperity model is adapted.

The numerical model using the modified leap-frog finite difference scheme is employed to simulate the propagation of tsunami generated at NTRT. This numerical model considering the dispersion effect and inundation of tsunami is then employed to estimate the maximum tsunami heights. Predicted results will be used to make the measures against unexpected tsunami attacks.