

Relationship between liquefaction occurrence ratio and strong ground motion duration for the 2011 off the Pacific coast

SENNA, Shigeki^{1*} ; WAKAMATSU, Kazue² ; MATSUOKA, Masashi³

¹NIED, ²Kanto Gakuin University, ³Tokyo Inst. Tech

In this study, We first reorganized the points of liquefaction in the 2011 off the Pacific coast of Tohoku Earthquake and plotted the number of liquefaction points in 250m mesh units, because many areas had not been investigated or were insufficiently investigated, as revealed in the information on liquefaction points disclosed and summarized by December 2011.

Next, using the reorganized liquefaction data, the seismic intensity were calculated and the 'real-time seismic intensity' noted by Kunugi et al.(2008) based on the waveforms recorded by seismographs of K-NET, KiK-net, the Meteorological Agency, and the municipalities and examined the effects of earthquake duration on liquefaction using the data on liquefaction points and the method of Matsuoka et al.(2011) to calculate the liquefaction occurrence, so that the liquefaction occurrence can be examined with consideration of the effect of the duration of seismic motion in the March 11 earthquake.

Keywords: Occurrence of liquefaction, Continuation time of strong ground, Geomorphologic classification, Fragility curve, Regional peculiarity