

## Relationship between liquefaction occurrence ratio and strong ground motion duration

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A report of research that the length of strong ground motion duration time including aftershock of the 2011 Tohoku-oki earthquake enlarged the damage range and scale of liquefaction occurs.

In this research, it aims at examination of the influence of the duration time of the strong ground motion of the 2011 Tohoku-oki earthquake about liquefaction occurrence rate.

First, "the real-time seismic intensity" by Kunugi et al(2008) and instrumental seismic intensity were calculated from strong ground motion waveform record.

Next, the relation with strong ground motion duration time was considered using the technique of calculating a liquefaction occurrence rate of Matsuoka et al(2011).

As a result, the liquefaction occurrence rate of the 2011 Tohoku-oki earthquake are much larger than those of past earthquakes caused liquefaction.

Moreover, it turned out that the size of strong motion duration time also affects a liquefaction occurrence rate of incidence.

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