

Soil Liquefaction Due to a Long Duration Earthquake with Low Acceleration and Its Evaluation

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A severe liquefaction due to an earthquake of long duration with low acceleration occurred near Tokyo Bay in the 2011 off the Pacific coast of Tohoku Earthquake. On the contrary, no damage was observed in the railway structures located at the same area. We have discussed the validity of assessment for liquefaction potential and design method for railway structures against liquefaction in this paper, through validation analyses focusing on a typical viaduct and surface ground near JR Shin-Urayasu Station. The results have indicated validities of both assessment of liquefaction potential and design method for railway structures against soil liquefaction as indicated in the seismic design standards.