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Countermeasure for Overturn of Existing on-the-Ground Breakwater due to Tsunami

Katsutoshi Ueno
Tokushima University, Japan

Overturn of breakwater was caused by rise of sea level due to tsunami was occurred at Toni, Tohoku in Japan. A series of geotechnical centrifuge model tests was conducted to develop countermeasure of overturn of existing on-the-ground breakwater due to tsunami. Firstly this accident was reproduced by using geotechnical centrifuge in Tokushima Univ. Then the mechanisms of overturn were discussed and role of lift pressure acting under the bottom of on-the-ground breakwater was pointed out. Countermeasure using sheet pile wall, which will decrease lift pressures, was examined by both centrifuge model tests and numerical analysis. Finally minimum requirement about penetration depth of sheet pile for overturn prevention was proposed based on both experimental and analytical results.

Biography:

Katsutoshi Ueno was born in 1964. He worked as a research associate in The Univ. of Utsunomiya from 1991 to 1998. Then he moved to Tokushima University. In 2001, he received Doctorate of engineering from Tokyo Institute of Technology. Currently he works as an Associate Professor of Geotechnical Engineering in Field of Disaster Science and Mitigation, Tokushima University.