DISPLACEMENT ANALYSIS OF SUBMARINE SLOPES USING ENHANCED NEWMARK METHOD

N. ZANGENEH and R. POPESCU
Faculty of Engineering & Applied Science, Memorial University, St. John's, Newfoundland, Canada A1B 3X5

Abstract

The Newmark method for predicting seismically induced displacement of slopes is enhanced by introducing of the yield (threshold) acceleration on the real soil strength, accounting for the effects of pore water pressure. Seismically induced pore water pressure build-up and its dissipation after the earthquake are calculated as a function of soil properties and ground motion characteristics, based on well-recognized practical methods. The proposed model provides more realistic predictions of slope displacements. It is validated based on centrifuge experimental results.

J. Locat, J. Mienert (eds), 2003, *Submarine Mass Movements and their Consequences 1st International Symposium*, Kluwer Academic Publishers, 193-202.