

## عنوان مقاله:

Numerical Investigation of Seismic Behavior of Rubble Mound Breakwaters Rested on Liquefiable Seabed Foundations

## محل انتشار:

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## خلاصه مقاله:

Offshore geotechnical structures, such as rubble mound breakwaters, are generally vulnerable to strong seismic excitation especially when they are constructed on loose or medium-dense seabed foundation. Liquefaction susceptibility of this foundation types threatens the seismic performance of these structures. In this study, numerical modeling of the seismic behavior of rubble mound breakwaters located on liquefiable soil layer are conducted using explicit finite difference method and a non-linear soil plasticity constitutive model. This model has capability to consider pore pressure build-up and liquefaction analysis through effective stress-based method. The numerical model verification is presented against centrifuge test data. Then, a series of analyses are carried out to compare the seismic behaviors of rubble mound breakwaters founded on liquefiable and non-liquefiable seabed foundation layer. The results revealed that liquefaction occurring beneath the breakwater intensifies the deformations of the rubble mound breakwater compared with the case that liquefaction has not been triggered.

## کلمات کلیدی:

Rubble mound, breakwater, liquefaction, numerical simulation, dynamic analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/961689>

