

عنوان مقاله:

Wave Energy Dissipation Using Perforated and Non Perforated Piles

محل انتشار:

ماهنامه بین المللی مهندسی، دوره 31، شماره 2 (سال: 1396)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Fatemeh Rostami - *Civil engineering, University Sains Malaysia*

Kok Keong Choong - *School of Civil Engineering, Universiti Sains Malaysia*

Mahdi Feizbahr - *Civil engineering, University Sains Malaysia*

Mahdi Shahrokhi - *Civil engineering, University Sains Malaysia*

خلاصه مقاله:

The indispensable vital structure in any harbor is a breakwater in order to make available calm water region inshore. Pile breakwater can be employed as a small coastal protection structure where tranquility required is low. This study is concerned with CFD study on the performance of perforated hollow pile to dissipate wave energy and the novelty of this investigation is the role of perforation layout in dissipating energy of water. Pile models under two different incident waves with constant water depth and wave amplitude have been classified into two groups with two different wavelengths, making a total of 10 models which has been simulated numerically by computational flow solver FLOW 3D. The analytical results of simulations show changes in the velocity profiles after piles while dissipation happened in the vicinity of the pile. The result implied the perforated models can perform better than the non-perforated ones and energy dissipation was found much more significant in perforated piles.

کلمات کلیدی:

Breakwater, Perforation, hollow piles, Flow 3D, wave modeling, Coastal, Protection

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/963228>

