

عنوان مقاله:

NUMERICAL MODELING FOCUSED ON EFFECTS OF THE POROUS MEDIA ON THE WAVES IMPINGING
RUBBLE MOUND BREAKWATERS

محل انتشار:

دوازدهمین همایش بین المللی سواحل، بنادر و سازه های دریایی (سال: 1395)

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خلاصه مقاله:

The permeability of the core material influences armour stability, wave run-up and wave overtopping. The main problem related to the scaling of filter layer and core materials in physical models is that the hydraulic gradient and the pore velocity are varying in space and time. This makes it impossible to reach a fully correct scaling. CFD models based on the Reynolds Averaged Navier-Stokes (RANS) equations are becoming extremely important in maritime and coastal engineering due to their capabilities, robustness and extensive validation for both surf zone hydrodynamics and the stability and functionality of conventional or non-conventional coastal structures. In the recent years, complex numerical simulations of breakwater behavior have been made possible, especially for rubble mounds, composed by blocks of concrete or rock in which water flows through complex geometry, such as: Van der Meer et al. (1992), Hsu et al. (2002), Lara et al. (2006), Chopakatla et al. (2008) and Dentale et al. (2015). However, there is still a need for practical empirical formula to estimate the pore velocities in filter layers and core avoiding the use of complex and time-consuming numerical models.

کلمات کلیدی:

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