عنوان مقاله:

Dynamic Interaction Analysis Of Varies Geometries On Gravity Base Structure

محل انتشار:

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خلاصه مقاله:

A The Condeep gravity base str ucture (GBS) is a support structure held in place by gravity. Giv en that the gravity platforms are supported by the sea bed but not attached to the ground, the motion of them is known as a rocking fluctuation. During the fluctuations, the platform maybe overturned if t he angle is large. In this study, using Ansy s Aqwa hydrodynamic software and analytical methods with regard to the performance, the dynamic interaction of platform's geometry on hydrodynamic forces have been simulated. The objective of this study was to analyze the hydrodynamic parameters of the sea and rocking fluctuations of gravity platfor ms under the impact of regular wave's moment considering the soil mechanics and hydrodynamic features of the structure. In order to achieve the objective the hydrodynamic forces using numerical simulations and analytical methods for one column and Three hollow columns platforms were analyzed. Finally, responses of the platform to irregular w aves were studied using numerical simulat ion. The results showed that with the increasing of the depth, the impact of wave's force and moment on the base of platform are reduced through exponential relatio nship. The reductions are due to the effective depth that is equal to half the wave length.The results sugg est that the response of the rocking motion of gravity platform shows significant changes in relation to height and wavelength. Based on the curve s fitted to the data of the fluctuation .angle, sustainability of the platform in the rocking motion can be tho roughly and completely investigated

کلمات کلیدی:

Chakrabarty, plat form, gravity-based structures, fluctuation, Ansys Aqwa ,JO NSWAP