

## عنوان مقاله:

REDUCING HEAVE RESPONSE AMPLITUDE OPERATOR OF A SEMI-SUBMERSIBLE PLATFORM USING PORO-ELASTIC PLATES

## محل انتشار:

سیزدهمین همایش بین المللی سواحل، بنادر و سازه های دریایی (سال: 1397)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

In this paper, the attempt has been made to analytically solve the coupling problem of a monochromatic linear wave with a semi-submersible platform which is modified by attaching Poro-Elastic Plates (PEPs) at the bottom of its pontoons. The PEP is considered to be homogenous, isotropic and saturated. The region around the semi-sub is divided into different parts and their related governing equations with appropriate boundary conditions (BCs) are developed. By applying Eigenfunction Expansion Method (EEM), these equations with their related BCs for each region are solved numerically. In order to verify the developed model, it is applied to a typical GVA4000 semisubmersible drilling rig and its heave Response Amplitude Operator (RAO) is extracted and compared with available experimental data. Furthermore, the PEP is attached to the rig and its heave RAO is estimated and compared with the original case. It is concluded that using PEP reduces the peak value of the heave motion response as well as the resonance frequency. Therefore, it can be a suitable method in order to improve the performance of a semisubmersible platform particularly its heave motion response.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/822090>

