

عنوان مقاله:

Updating Large Models for Jacket Type Offshore Platforms from Limited Modal Data

محل انتشار:

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خلاصه مقاله:

The marine industry requires continued development of new technologies in order to produce oil. Hence, an important requirement in design is to be able to compare experimental results from prototype structures with predicted results from a corresponding finite element model (FEM). In this context, model updating may be defined as the fit of an existing analytical model in the light of measured vibration test. After fitting, the updated model is expected to represent the dynamic behavior of the structure more accurately. In this way, this work presents a direct based updating study of a reduced scale four-story spatial frame jacket structure fabricated and tested at the Laboratory of Structural Dynamics. Also, an efficient model updating process was presented with limited modal data, which uses modal data in order to improve the correlation between the experimental and analytical models. The proposed technique is computationally efficient since it does not require iterations. It updates the mass and stiffness matrix such that they are compatible with the modal data of the observed modes

کلمات کلیدی:

Offshore jacket platforms, model updating, experimental modal analysis, limited modal data

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