عنوان مقاله:

Stability and seakeeping performance assessment of a ship shape FPSO in three main operational conditions at Persian Gulf: full loaded; half loaded and full ballast

محل انتشار:

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خلاصه مقاله:

Floating, Production, Storage and Offloading FPSO is the most common floating production system in offshore oil and gas industries with broad environmental applications. FPSOs offer more economical alternative to long-distance seabed pipelines. Hull design for FPSO can be challenging, as the maritime and offshore industries may have conflicting approaches. Therefore, designers should know the basis and limitations of respective approaches to analyze effective FPSO hull structure design. Stability and seakeeping are two main parts of a floating structure hull design and performance assessment. The objective of this study is to establish a systematic approach for performance assessment of FPSO units in three common loading conditions. The problem is defined as Multi-Criteria Decision Making (MCDM) model. Analytical hierarchy process (AHP) is used for solving multi-attribute decision problems. The system characteristics and responses including intact and damage stability, significant responses and amplitudes including, motions and accelerations are calculated by respected diffraction code and considered as performance measurements. The analytical hierarchy process is used to weight, rank and compare the performance measurements for three given loading conditions

کلمات کلیدی:

FPSO, Stability, Seakeeping, Multidisciplinary system, Persian Gulf