

Time-domain Analysis of FPSO-tanker Responses in Tandem Offloading Operation^(PDF)

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Title: Time-domain Analysis of FPSO-tanker Responses in Tandem Offloading Operation

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摘要: Problems experienced during Floating Production, Storage and Offloading (FPSO) tandem offloading operations were investigated. The aim of this research was to improve the reliability of such systems, and it needed a means to assess them. Time-domain simulation and analysis of offloading systems was performed using the multi-body mooring software ARIANE 7.0. Hydrodynamic interaction between the vessels was considered. The responses of the offloading system in different loading cases, different parameters of offloading hawsers and the effects of challenging environmental conditions were calculated. There was a focus on the problems of relative motion between the two bodies and its effects on the intensity of hawser forces. Minimum relative distance, maximum relative headings and maximum tension in the hawsers of offloading systems were obtained by time-domain analysis. The time-domain analysis was effective and comparative study can be used to optimize parameters of the system and extend operating limits.

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