**Book Review**

Mooring system engineering for offshore structures

by K.T. Ma, Y. Luo, C.T. Kwan and Y. Wu

Reviewed by Jeom Kee Paik

There has been a steady increase in the demand for floating drilling and production platforms over the past decades, and a key element for these platforms is the mooring system. Although there is scattered information about mooring systems in the literature, technical books providing a comprehensive understanding of the system were lacking or non-existing. Some books such as the one by Paik and Thayamballi (2007) describe the subject by having a chapter or a section to introduce basic types of mooring systems. This book by Ma, Luo, Kwan and Wu fills the gap and has been waited for by both the academia and the industry.

This book may be considered a milestone in the literature of ocean engineering, as it covers all aspects of mooring engineering from design, analysis, hardware, installation, inspection, to integrity management. It introduces various types of mooring systems for floating drilling and production. It briefs the mooring design process, code checking requirements, and applicable mooring design codes. Various approaches for mooring analysis and available commercial software for these approaches are discussed. The book reviews the role of physical model testing and the practical ways to overcome the difficulties associated with model basin limitation. It presents insights on various types of anchors and practical considerations for selecting an anchor for a specific project. It introduces types of mooring components and winching equipment for floating drilling and production. It shows practical ways of conducting a mooring inspection for permanent and temporary moorings and available inspection standards. The book covers real-life cases of mooring integrity issues and practical ways to improve mooring integrity.

The book can be educational for students and engineers engaging in naval architecture and offshore engineering, because it has the following great features.

- It provides the needed background on floating drilling and production operations for the readers to understand the mooring system, such as history of floating drilling and production, types of floating vessels, the impact of mooring on risers, technology advancement, and regulatory issues, etc.
- It presents the fundamental theories and equations for simulating mooring and floating vessel responses, such as static and dynamic equations of mooring line. The fundamental theories and equations are important for those who want to develop more in depth understanding of mooring system in their work.
- A special chapter is devoted to mooring systems for floating offshore wind turbines (FOWT), which is a timely addition when the transition of traditional oil & gas to renewable energy is in progress.
- Questions at the end of each chapter are presented for reinforcing the learning. Also, a list of references at the end of each chapter helps those who want to gain more in-depth understanding of the subject.

In summary, the book is written in plain English by four experts. The technical content is well supported by many clear and meaningful illustrations. The book can be very valuable to

those students and practicing engineers who want to develop a deep understanding of mooring systems for offshore structures.

References

Paik JK, Thayamballi AK (2007). Ship-shaped offshore installations: design, building, and operation, Cambridge University Press, Cambridge, U.K.

# Mooring System Engineering
## for Offshore Structures

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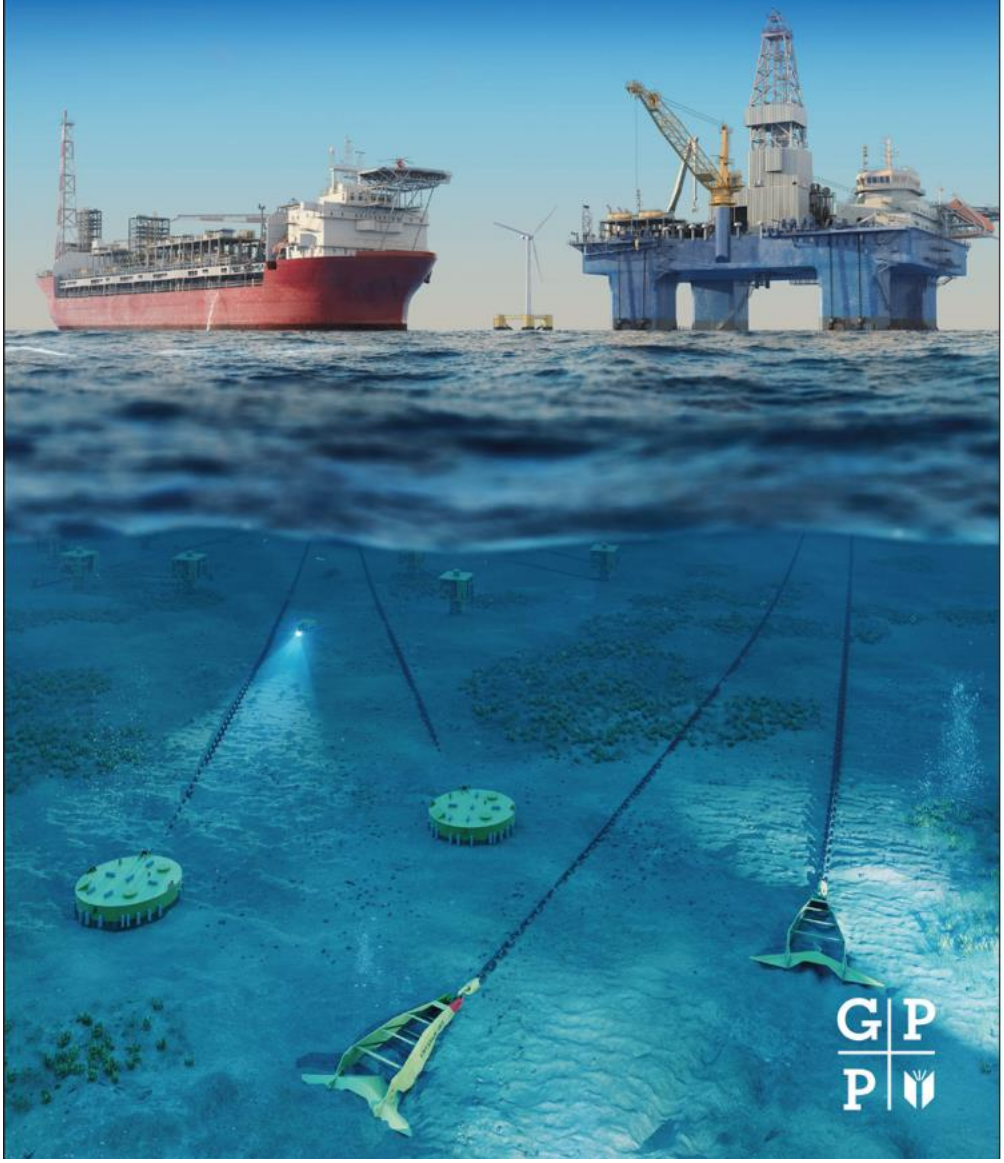

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