

A Numerical DP Module to Help Design and Operation for Projects

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Abstract

Dynamic Positioning (DP) is a rapidly maturing technology. Nowadays increasing demands for DP vessels not only for exploration and installation operations but for units in production, the designs of such vessels require meticulous analysis.

PRINCIPIA R.D. has developed DIODORE™ their general hydrodynamic software for over 20 years. It has recently enhanced this marine package with an extensive DP module.

Indeed, the need for DP tools to evaluate the feasibility of a marine operation or a long term station keeping concept with or without classical mooring systems is used at all the stages of offshore development projects from the concept analysis to the detailed installation study but also for basic design.

This paper includes a detailed description of the mechanical and DP model with some academic results for the case of tandem DP tanker offloading. It will show how the program can help in providing design criterion for the DP system as well as the design concept for related operation.

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