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Introduction

Dear readers of the International Shipbuilding Progress journal,

It is my pleasure to present to you issue 68 (1–2) of International Shipbuilding Progress (ISP).

I am very proud that we are able to present to you this special edition covering three very interesting articles that parse their origin to the 26th HISWA International Symposium on Yacht Design and Yacht Construction held on 16 and 17 November 2020. This bi-annual symposium was always held in parallel to the annual METSTRADE, the world's largest trade exhibition on marine equipment, materials and systems for the marine leisure industry, at the RAI in Amsterdam. However, due to COVID-19 it was decided to cancel the METSTRADE in 2020 but to allow the HISWA Symposium to proceed in a virtual format using the online platform of MARIN in Wageningen.

This time the 26th HISWA Symposium consisted of a mix of both scientific and applied knowledge presentations of which 3 scientific papers were invited for a more in depth version to be published in this Journal.

The first article is about the effect that additional stern appendages can have on the course keeping behaviour of a ship in mild-to-rough sea conditions. A combination of three different configurations of stern appendages and three different hull forms were investigated using a time domain panel method for the numerical calculation extended with semi-empirical formulations to estimate the contribution of these appendages to the loads acting on the hull.

The second article concerns the dynamic positioning (DP) analysis and comfort assessment in the early design stage design using DP as an additional limiting criterion for comfort. This study was carried out at MARIN by Francesco Mauro and others, and uses a scatter diagram approach for the dynamic positioning (DP) analysis to estimate the downtime of the DP-system. For large yachts DP is used to provide station keeping to maximise comfort levels on board. Different propulsion-rudder-thruster configurations have been studied under environmental loads typical for the areas in which large yachts usually operate. In addition, this method is coupled with a ship motions analysis for a comfort analysis after which the results were integrated resulting in a ranking of the proposed alternative configurations.

The third article is about a new open-source code for assessing the dynamic stability characteristics of hydrofoil craft. To analyse surface piercing foils it is required to add a free-surface boundary to the model. CFD can be used to perform the dynamic stability analysis (DSA) of a foiling craft but these calculations are very time consuming as multiple calculations are needed. As an alternative an existing potential flow code, originally developed for performing flow calculations of aeroplanes,

was adapted to be used for hydrofoil craft geometries. The new code makes use of the vortex-lattice method (VLM) to calculate lift and drag generated by the foils. An example is described to demonstrate the workflow how to create alternative designs and how to calculate their stability characteristics in order to generate insight in how the design parameters alter the dynamic behaviour of the design.

On behalf of the editorial board I hope that this issue will extend your interest in opportunities for doing research related to the marine leisure industry.

All the best,
Hans Hopman, editor International Shipbuilding Progress

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