



Editorial Selected Papers from the Sixth International Symposium on Marine Propulsors

Kourosh Koushan ^{1,*} and Sverre Steen ²

- ¹ SINTEF Ocean and Department of Marine Technology, Faculty of Engineering Science and Technology, Norwegian University of Science and Technology, Otto Nielsens vei 10, N-7491 Trondheim, Norway
- ² Department of Marine Technology, Faculty of Engineering Science and Technology, Norwegian University of Science and Technology, Otto Nielsens vei 10, N-7491 Trondheim, Norway; sverre.steen@ntnu.no
- * Correspondence: Kourosh.Koushan@sintef.no; Tel.: +47-411-05-297

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This Special Issue is following up the success of the latest Symposium on Marine Propulsors (www. marinepropulsors.com, smp'19) by publishing extended or improved versions of the selected papers presented at the symposium. This issue also includes new original contributions. The symposium smp'19 was the sixth in a series of international symposiums dedicated to the hydrodynamics of all types of marine propulsors. The next symposium in this series will be held in China in May 2021. This Special Issue comprises 17 excellent papers originating from the symposium [1–17] and two outstanding new papers [18,19]. The papers disseminate state-of-the-art numerical and experimental research results on marine propulsors and marine renewable devices.

Marine propulsors are key components of the many thousands of ships operating in oceans, lakes, and rivers around the world. The performance of propulsors is vital for the efficiency, environmental impact, including the impact on marine fauna, and safety of ships. Propulsor performance is also important for crew and passenger comfort. New types of propulsors with electric drives, flexible blades, and rim driven propellers require new knowledge and improved tools. Innovative main or auxiliary propulsor types, using renewable energy from waves or winds, are also being commercialized. The improvement of computers and computational fluid dynamics creates new opportunities for advanced design and performance predictions, and new instrumentation and data collection techniques enable more advanced experimental techniques. This Special Issue of the *Journal of Marine Science and Engineering* is devoted to bringing the latest developments in research and technical developments regarding hydrodynamic aspects of marine propulsors, to the benefit of both academics and the industry.

Prof. Dr. Kourosh Koushan and Prof. Dr. Sverre Steen

Guest Editors of "Selected Papers from the Sixth International Symposium on Marine Propulsors"

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References

- 1. Li, L.; Zhou, B.; Liu, D.; Wang, C. Numerical Analysis of Influence of the Hull Couple Motion on the Propeller Exciting Force Characteristics. *J. Mar. Sci. Eng.* **2019**, *7*, 330. [CrossRef]
- 2. Kang, J.; Kim, M.; Kim, H.; Shin, I. Study on Propulsion Performance by Varying Rake Distribution at the Propeller Tip. *J. Mar. Sci. Eng.* **2019**, *7*, 386. [CrossRef]
- 3. Zheng, C.; Liu, D.; Huang, H. The Numerical Prediction and Analysis of Propeller Cavitation Benchmark Tests of YUPENG Ship Model. *J. Mar. Sci. Eng.* **2019**, *7*, 387. [CrossRef]
- 4. Fatiha, M.; Augier, B.; Deniset, F.; Casari, P.; Astolfi, J. Morphing Hydrofoil Model Driven by Compliant Composite Structure and Internal Pressure. *J. Mar. Sci. Eng.* **2019**, *7*, 423.
- 5. Li, D.; Lindell, P.; Werner, S. Transitional Flow on Model Propellers and Their Influence on Relative Rotative Efficiency. *J. Mar. Sci. Eng.* **2019**, *7*, 427. [CrossRef]
- Song, G.; Park, H.; Lee, T. The Effect of Rudder Existence on Propeller Eccentric Force. J. Mar. Sci. Eng. 2019, 7, 455. [CrossRef]
- 7. Eisen, N.; Gany, A. Theoretical Performance Evaluation of a Marine Solid Propellant Water-Breathing Ramjet Propulsor. *J. Mar. Sci. Eng.* **2020**, *8*, 8. [CrossRef]
- 8. Savio, L.; Sileo, L.; Kyrre Ås, S. A Comparison of Physical and Numerical Modeling of Homogenous Isotropic Propeller Blades. *J. Mar. Sci. Eng.* **2020**, *8*, 21. [CrossRef]
- 9. Sun, W.; Hu, Q.; Hu, S.; Su, J.; Xu, J.; Wei, J.; Huang, G. Numerical Analysis of Full-Scale Ship Self-Propulsion Performance with Direct Comparison to Statistical Sea Trail Results. *J. Mar. Sci. Eng.* **2020**, *8*, 24. [CrossRef]
- 10. Arad Ludar, L.; Gany, A. Experimental Study of Supercavitation Bubble Development over Bodies in a Duct Flow. *J. Mar. Sci. Eng.* **2020**, *8*, 28. [CrossRef]
- 11. Sasaki, N.; Kuribayashi, S.; Fukazawa, M.; Atlar, M. Towards a Realistic Estimation of the Powering Performance of a Ship with a Gate Rudder System. *J. Mar. Sci. Eng.* **2020**, *8*, 43. [CrossRef]
- 12. Koushan, K.; Krasilnikov, V.; Nataletti, M.; Sileo, L.; Spence, S. Experimental and Numerical Study of Pre-Swirl Stators PSS. *J. Mar. Sci. Eng.* **2020**, *8*, 47. [CrossRef]
- 13. Knight, B.; Maki, K. Multi-Degree of Freedom Propeller Force Models Based on a Neural Network and Regression. *J. Mar. Sci. Eng.* 2020, *8*, 89. [CrossRef]
- 14. Kim, S.; Kinnas, S. Prediction of Unsteady Developed Tip Vortex Cavitation and Its Effect on the Induced Hull Pressures. J. Mar. Sci. Eng. 2020, 8, 114. [CrossRef]
- 15. Viitanen, V.; Siikonen, T.; Sánchez-Caja, A. Cavitation on Model- and Full-Scale Marine Propellers: Steady and Transient Viscous Flow Simulations at Different Reynolds Numbers. *J. Mar. Sci. Eng.* **2020**, *8*, 141. [CrossRef]
- 16. Aktas, B.; Yilmaz, N.; Atlar, M.; Sasaki, N.; Fitzsimmons, P.; Taylor, D. Suppression of Tip Vortex Cavitation Noise of Propellers using PressurePoresTM Technology. *J. Mar. Sci. Eng.* **2020**, *8*, 158. [CrossRef]
- 17. Helma, S. Surprising Behaviour of the Wageningen B-Screw Series Polynomials. J. Mar. Sci. Eng. 2020, 8, 211. [CrossRef]
- 18. Kozlowska, A.; Dalheim, Ø.; Savio, L.; Steen, S. Time Domain Modeling of Propeller Forces due to Ventilation in Static and Dynamic Conditions. *J. Mar. Sci. Eng.* **2020**, *8*, 31. [CrossRef]
- 19. Kinnas, S. VIScous Vorticity Equation (VISVE) for Turbulent 2-D Flows with Variable Density and Viscosity. *J. Mar. Sci. Eng.* **2020**, *8*, 191. [CrossRef]



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