Proceedings of ASME 2022 41st International Conference on Ocean, Offshore & Arctic Engineering

(OMAE2022)

Volume 5B

June 5-10, 2022 Hamburg, Germany

Conference Sponsor
Ocean, Offshore and Arctic
Engineering Division

Two Park Avenue * New York, N.Y. 10016

© 2022, The American Society of Mechanical Engineers, 2 Park Avenue, New York, NY 10016, USA (www.asme.org)

All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

INFORMATION CONTAINED IN THIS WORK HAS BEEN OBTAINED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS FROM SOURCES BELIEVED TO BE RELIABLE. HOWEVER, NEITHER ASME NOR ITS AUTHORS OR EDITORS GUARANTEE THE ACCURACY OR COMPLETENESS OF ANY INFORMATION PUBLISHED IN THIS WORK. NEITHER ASME NOR ITS AUTHORS AND EDITORS SHALL BE RESPONSIBLE FOR ANY ERRORS, OMISSIONS, OR DAMAGES ARISING OUT OF THE USE OF THIS INFORMATION. THE WORK IS PUBLISHED WITH THE UNDERSTANDING THAT ASME AND ITS AUTHORS AND EDITORS ARE SUPPLYING INFORMATION BUT ARE NOT ATTEMPTING TO RENDER ENGINEERING OR OTHER PROFESSIONAL SERVICES. IF SUCH ENGINEERING OR PROFESSIONAL SERVICES ARE REQUIRED, THE ASSISTANCE OF AN APPROPRIATE PROFESSIONAL SHOULD BE SOUGHT.

ASME shall not be responsible for statements or opinions advanced in papers or . . . printed in its publications (B7.1.3). Statement from the Bylaws.

For authorization to photocopy material for internal or personal use under those circumstances not falling within the fair use provisions of the Copyright Act, contact the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, tel: 978-750-8400, www.copyright.com.

Requests for special permission or bulk reproduction should be addressed to the ASME Publishing Department, or submitted online at: https://www.asme.org/publications-submissions/journals/information-for-authors/journalguidelines/rights-and-permissions

ISBN: 978-0-7918-8590-1

CONTENTS

Proceedings of ASME 2022 41st International Conference on Ocean, Offshore & Arctic Engineering OMAE2022 Volume 5B

OCEAN ENGINEERING

Metocean, Measurement, and Data Interpretation OMAE2022-78603	
Estimation of Ocean's Currents Acting on a Turret-Moored FPSO Using Machine Learning Pedro Felipe Lavra Dias, Eduardo Aoun Tannuri, Anna Helena Reali Costa, Glauco Augusto De Paula Caurin, and Gustavo Alencar Bisinotto	
OMAE2022-78608)3
OMAE2022-79126)4
OMAE2022-79888. Estimating Joint Extremes of Significant Wave Height and Wind Speed for Tropical Cyclones Kosuke Sando, Ryota Wada, Jeremy Rohmer, Sophie Lecacheux, and Philip Jonathan)5
OMAE2022-80407)6
OMAE2022-80642)7
OMAE2022-86835	80
Model Tests	
OMAE2022-80202. V05BT06A00 Hydrodynamic Performance of Floating Pontoon Type Breakwater With Skirt Walls and Different Porosity Subramaniam Neelamani and Alanoud AlRagum)9
OMAE2022-81133	10

OMAE2022-81324
Sébastien Fouques, Andreas Akselsen, Trevor Harris, and Kent Brett
Ocean Engineering Technology
OMAE2022-78400. V05BT06A012 Dynamic Property of a Floating Multi-Body System for Dual Barge Float-Over Operation With a Mechanical TLS (Topside Lifting System) Shujie Zhao, Zhen Gao, Dejiang Li, and Xun Meng
OMAE2022-78714
OMAE2022-78997
OMAE2022-79026
OMAE2022-79049. Influence of Extreme Environmental and Deep-Sea Temperature Conditions on Silicone Oil Used for Insulating Underwater Electrical Switching Systems Yvonne Haba, Saravanakumar Arumugam, Sascha Krohmann, Gerhard Körner, Ranko Richert, and Sascha Kosleck
OMAE2022-79186
OMAE2022-79261
OMAE2022-79725
OMAE2022-79854
OMAE2022-79871
OMAE2022-79913. V05BT06A022 Underwater Vehicle Manipulator System (UVMS) With BlueROV2 and SeaArm-2 Manipulator Martin Skaldebø, Ingrid Schjølberg, and Bent O. A. Haugaløkken
OMAE2022-80032. Human-Machine Engineering Virtual Simulation for the Wheelhouse on Large Ships Chuntong Li, Naikun Wei, Xiaomeng Luo, Jianjun Lv, Xuelian Yang, and Deyu Wang

OMAE2022-80359. Comparison of Cutter Suction Dredger Slurry Concentration Soft Measurement Method Based on the Mechanism and Data Dual-Driven Model Bin Wang, Shidong Fan, Ting Xiong, and Hanhua Zhu	95BT06A024
OMAE2022-81238	95BT06A025
Ship Hydromechanics	
OMAE2022-78433	95BT06A026
OMAE2022-78474	05BT06A027
OMAE2022-78713	95BT06A028
Ole Detlefsen, Carl Reiner, and Moustafa Abdel-Maksoud OMAE2022-78781V0	AEDTOCA 020
On the Influence of Hull-Shape on the Location of Roll-Axis Lars Johnsen and Stefan Krüger	13B 106A029
OMAE2022-78937	95BT06A030
OMAE2022-79532	95BT06A031
OMAE2022-80248V0)5BT06A032
Kinetic Characteristics and Hydrodynamic Forces on Semi-Planing Typed High-Speed Vehicle by Model Test and RANS Simulation Kenta Hasegawa, Motoki Araki, Kei Ishida, Kazuhiro Yukawa, Shota Saito, Ryoya Sano, and Keisuke Uemura	
OMAE2022-81219	95BT06A033
OMAE2022-81422	95BT06A034
Towed and Undersea Cables and Pipes, Mooring, and Buoy Technology	
OMAE2022-79783. Model Experiments and Numerical Simulations on GPS Buoy With Steep Wave Mooring Motoki Araki, Mitsushi Watanabe, Sotaro Masanobu, Atsuo Omura, Shouhei Kaita,	95BT06A035
and Atsushi Kunita	

OMAE2022-80516	. V05BT06A036
Clemens Schütt, Christoph Otto, and Sascha Kosleck OMAE2022-86113. Bending Study of Copper Conductors From Power Cables Xiaoli Jiang, Hans Hopman, Yong Bai, and Pan Fang	. V05BT06A037
Underwater Vehicles and Design Technology	
OMAE2022-78048	. V05BT06A038
OMAE2022-78146	. V05BT06A039
OMAE2022-79448 UiS Subsea Freight-Glider: Controller Design and Analysis Usman Nawaz Ahmad and Yihan Xing	. V05BT06A040
OMAE2022-79642. Parametric Modeling Method of Propeller and Reverse Output of 3D Model Yu Lu, Chunxiao Wu, Shewen Liu, Zhuhao Gu, Wu Shao, and Chuang Li	. V05BT06A041
OMAE2022-79677. Optimization of a Flexible Flapping-Foil Thruster Based on a Coupled BEM-FEM Model Dimitra Anevlavi, Evangelos Filippas, Angeliki Karperaki, and Kostas Belibassakis	. V05BT06A042
OMAE2022-79760. Numerical Analysis on Model- and Full-Scale Unsteady Propeller Force for Underwater Vehicle Kenshiro Takahashi, Jun Arai, and Takayuki Mori	. V05BT06A043
OMAE2022-79762	. V05BT06A044
Kenshiro Takahashi, Jun Arai, and Takayuki Mori OMAE2022-79891	V05DT064045
Artificial Underwater Dataset: Generating Custom Images Using Deep Learning Models Ioannis Polymenis, Maryam Haroutunian, Rose Norman, and David Trodden	. VU3B1U6AU43
OMAE2022-80349	. V05BT06A046
OMAE2022-80537	. V05BT06A047
OMAE2022-81058. Experimental Study of the Drag and Wave-Induced Surge Forces on an Underwater Vehicle Operating Near the Surface Kristia M. Suriben, Kathryn I. Yeager, Joseph T. Klamo, and Young W. Kwon	. V05BT06A048
OMAE2022-81308 Propulsive Performance of Morphing and Heaving Foil Pragalbh Dev Singh, Ishan Neogi, Vardhan Niral Shah, and Vaibhav Joshi	. V05BT06A049

OMAE2022-81477
Unsteady Hydrodynamics, Vibrations, Acoustics, and Propulsion OMAE2022-78157. Marine Ducted Thruster Underwater Radiated Noise Control Through Leading-Edge Tubercle Blade Modifications - a Numerical Hybrid Approach Callum Stark, Weichao Shi, Yunxin Xu, and Moritz Troll OMAE2022-78811. V05BT06A052
A Dynamical System for the Combined Performance of Innovative Biomimetic Thruster With Standard Propulsion System in Waves Kostas A. Belibassakis and Evangelos S. Filippas OMAE2022-79699. V05BT06A053
Noise Generation and Propagation From Flapping-Foil Thrusters Used for Marine Propulsion Iro Malefaki, Angeliki Karperaki, and Kostas Belibassakis
OMAE2022-80803
Wave Mechanics, Modeling, and Wave Effects OMAE2022-78098
OMAE2022-78882
OMAE2022-79010
OMAE2022-79089
OMAE2022-79278. Development of an Online Ship Simulator to Represent the Dynamic Ship Responses in Regular Waves Using an Inertial Measurement Unit Luis A. Zorrilla Gomez, Beatriz K. Miranda Sandoval, Miguel A. Hinostroza, Saida M. Ramos Quiñonez, and Nain M. Ramos Alvarez
OMAE2022-79838

OMAE2022-79880. Generation of Controlled Irregular Wave Crest Statistics in a Numerical Wavetank Using HOS-NWT Solver Maxime Canard, Guillaume Ducrozet, and Benjamin Bouscasse
OMAE2022-80594. V05BT06A062 The Impact of the Spectral Tail on the Kurtosis of Random Seas Dylan Barratt, Ton S. van den Bremer, and Thomas A. A. Adcock
OMAE2022-80596. V05BT06A063 On Rogue Waves Generated by Abrupt Depth Transitions Zhenhao Li, Tianning Tang, Samuel Draycott, Yan Li, Ton van den Bremer, and Thomas Adcock
OMAE2022-81143
HONORING SYMPOSIUM FOR PROFESSOR GÜNTHER F. CLAUSS ON HYDRODY- NAMICS AND OCEAN ENGINEERING
Deterministic Wave and Motion Prediction
OMAE2022-78434
OMAE2022-78988
OMAE2022-79571. Simulation of a Moored Multibody Offshore Structure Articulated by Different Joints in Waves Change in a Cold of Mooter Cold and Mooter Cold and Thomas To School in
Changqing Jiang, Ould el Moctar, Guiyong Zhang, and Thomas E. Schellin
OMAE2022-81298. Short-Term Forecasting of Surface Wave Elevation Based On an Autoregressive Model
Jialun Chen, Wenhua Zhao, Ian Milne, and Scott Draper
Extreme Waves and Their Impact on Ships and Structures
OMAE2022-79170. Wave Riding Through Time – The Contributions of Günther F. Clauss to the Field of Ocean Wave Research Florian Sprenger, Sascha Kosleck, and Marco Klein
OMAE2022-79903. V05BT12A006 Modified Dam-Break Solution for Green Water on the Deck of an FPSO Jinzhu Xia, Huaxing Liu, and Hilmi Sukri
Hydrodynamics, Seakeeping, and Global Performance
OMAE2022-78413. Validation of Time Domain Seakeeping Computations Based on Capsizing Model Tests in Natural Seaways Wiebke Römhild, Philipp Russell, Christian Frühling, and Stefan Krüger

OMAE2022-78835	3
OMAE2022-79037	3
OMAE2022-79048)
OMAE2022-79052. Numerical Investigation of Mean Drift Forces Acting on Restrained FPSO in Regular Waves by Linear and Nonlinear Tools Csaba Pakozdi and Nuno Fonseca	Í
OMAE2022-79530. V05BT12A012 Ship Gyroscopic Roll Stabilisation S. Ribeiro e Silva and J. M. Varela	2
OMAE2022-80042	3
OMAE2022-81100	4
Model Tests	
OMAE2022-78601	5