Proceedings of ASME 2021 40th International Conference on Ocean, Offshore and Arctic Engineering

(OMAE2021)

Volume 3

June 21-30, 2021 Virtual, Online

Conference Sponsor
Ocean, Offshore and Arctic
Engineering Division

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

© 2021, 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: 978-0-7918-8513-0

CONTENTS

Proceedings of ASME 2021 40th International Conference on Ocean, Offshore and Arctic Engineering

MATERIALS TECHNOLOGY

Environmental Effect on Materials Performance
OMAE2021-62484
OMAE2021-62600
OMAE2021-63044
OMAE2021-63753. Hydrogen's Peculiar Effect on Material Properties: Do We Need to Be Concerned About Hydrogen Transport in Pipelines? Erling Østby, Bjørn-Andreas Hugaas, and Agnes Marie Horn
Fatigue Performance and Testing
OMAE2021-62388
OMAE2021-62758
OMAE2021-62948
Fracture Assessment and Control
OMAE2021-62310
OMAE2021-62443
OMAE2021-62843
Guotini Bratawaj and N. W. Orlandina Natirayako

OMAE2021-69438
Harpreet Sidhar, Neerav Verma, Chih-Hsiang Kuo, Michael Belota, and Andrew J. Wasson
Integrity Assessment and Life Extension
OMAE2021-60938
Jerin Mathew George, Mehrdad Kimiaei, and Mohamed Elchalakani
OMAE2021-62213
OMAE2021-62895
OMAE2021-63227