

MRS

Advances

International Materials Research Congress XXVIII

<https://doi.org/10.1557/adv.2020.94> Published online by Cambridge University Press

MRS

MATERIALS
RESEARCH
SOCIETY®

CAMBRIDGE
UNIVERSITY PRESS

MRS Advances: International Materials Research Congress XXVIII

Associate Editor:

David F. Bahr, *Purdue University, USA*

Principal Editor:

Jesús Ángel Arenas Alatorre, *Instituto de Física, UNAM, Mexico*

MRS Advances Editorial Board:

Editor-in-Chief: David F. Bahr, *Purdue University, USA*

Meenakshi Dutt, *Rutgers University, USA*

Norbert Huber, *HZG (Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research), Germany*

Marian Kennedy, *Clemson University, USA*

Praveen Kumar, *Indian Institute of Science, India*

John Stuart McCloy, *Washington State University, USA*

Ruth Schwaiger, *Karlsruhe Institute of Technology, Germany*

Jeremy Theil, *Mountain View Energy, USA*

Materials Research Society Editorial Office, Warrendale, PA, USA:

Ellen W. Kracht, *Publications Manager*

Susan Dittrich, *Editorial Associate*

Kirby L. Morris, *Editorial and Production Associate*

Eileen M. Kiley, *Director of Communications*

Disclaimer

Authors of each article appearing in this Journal are solely responsible for all contents in their article(s) including accuracy of the facts, statements, and citing resources. Facts and opinions are solely the personal statements of the respective authors and do not necessarily represent the views of the editors, the Materials Research Society, or Cambridge University Press.

MRS Advances (EISSN: 2059-8521) is published by Cambridge University Press, One Liberty Plaza, Floor 20, New York, NY 10006 for the Materials Research Society.

Copyright © 2019, Materials Research Society. All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press. Policies, request forms and contacts are available at: <http://www.cambridge.org/rights/permissions/permission.htm>. Permission to copy (for users in the USA) is available from Copyright Clearance Center at: <http://www.copyright.com>, email: info@copyright.com.

Purchasing Options:

Premium Subscription- Premium Subscription includes current subscription and one year's lease access to the full MRS Online Proceedings Library Archive for \$7,219.00 / £4,888.00 / €6,647.00. *Subscription*- Subscription with perpetual access to the content subscribed to in a given year, including three years of back-file lease access to content from the MRS Online Proceedings Library Archive. The price for a 2018 subscription is \$3,019.00 / £1,948.00 / €2,625.00. *MRS Members*- Access to *MRS Advances* is available to all MRS members without charge.

Contact Details:

For all inquiries about pricing and access to *MRS Advances*, please get in touch via the following email addresses: online@cambridge.org (for the Americas); library.sales@cambridge.org (for UK, Europe, and rest of world).

cambridge.org/adv

CONTENTS

ARTICLES

Effect of Laser Welding Sequences on Residual Stresses and Distortion of DP600 Steel Joints 3441
M.A. Carrizalez-Vazquez and G.Y. Pérez-Medina

***Ab Initio* Study of the Crystal Structure and the Elastic Properties of the $\text{Mo}_{0.85}\text{Nb}_{0.15}\text{B}_3$ Compound Under Pressure. 3453**
J. León-Flores, M. Romero, J. Rosas-Huerta, and R. Escamilla

Microstructural Characterization of the Laser Welding in a Nickel Based Superalloy 3463
Mayra Jurado, Gerardo Altamirano, Jorge Leobardo Acevedo, and Alvaro Aguirre

Effect of Nickel Content in the Corrosion Process of TiC/Cu-Ni Composites Immersed in Synthetic Seawater 3475
Miguel A. Téllez-Villaseñor, Carlos A. León Patino, Ricardo Galván Martínez, and Ena A. Aguilar Reyes

Development of a Hybrid Metal-oxides ($\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{Al}_3\text{Fe}-\text{Al}_3\text{Fe}_5\text{O}_{12}$) Reinforced Polycaprolactone Composite 3485
N.N. Zurita-Méndez, J. Beltran-González, G. Carbajal-De la Torre, and M.A. Espinosa-Medina

Electrochemical Evaluation of a Discontinuously Reinforced TiC/Ni-20Cr Composite 3495
Rocio J. Gonzalez-Esquivel, Carlos A. Leon-Patiño, Ricardo Galvan-Martinez, and Ena A. Aguilar-Reyes