

MRS **Advances**

Processing and Manufacturing

<https://doi.org/10.1557/adv.2018.352> Published online by Cambridge University Press

MRS Advances: Processing and Manufacturing

Associate Editor:

Jeremy Theil, *Mountain View Energy*

Principal Editors:

Vicky Poenitzsch, *Southwest Research Institute, USA*

I. Emre Gunduz, *Purdue University, USA*

Maria Teresa Pérez Prado, *IMDEA Materials Institute, Spain*

Takafumi Fukushima, *Tohoku University, Japan*

MRS Advances Editorial Board:

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

Asa Barber, *University of Portsmouth, United Kingdom*

Meenakshi Dutt, *Rutgers University*

Elizabeth L. Fleischer, *Materials Research Society*

Marian Kennedy, *Clemson University*

Marilyn L. Minus, *Northeastern University*

Roger J. Narayan, *University of North Carolina/North Carolina State University*

Ruth Schwaiger, *Karlsruhe Institute of Technology, Germany*

Jeremy Theil, *Mountain View Energy*

Materials Research Society Editorial Office, Warrendale, PA:

Ellen W. Kracht, *Publications Manager*

Susan Dittrich, *Journals Editorial Assistant*

Kirby L. Morris, *Journals Production Assistant*

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 © 2018, 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

Estimating the Relative Energy Content of Reactive Materials Using Nanosecond-pulsed Laser Ablation	875
Jennifer L. Gottfried, Steven W. Dean, Eric S. Collins, and Chi-Chin Wu	
Impact Sensitivity and Ignition Mechanisms of Nanoaluminum- poly(perfluorinated methacrylate) Nanocomposites	887
Lauren A. Morris, Darla Graff Thompson, Racci DeLuca, Ian Shelburne, I. Emre Gunduz, Steven F. Son, and Chris D. Haines	
Rapid Electrical Heating of Aluminum-Boron Nano-Laminates	905
David M. Lunking, David P. Adams, and Christopher J. Morris	
Underwater Robotic Welding of Lap Joints with Sandwiched Reactive Multilayers: Thermal, Mechanical and Material Analysis.	911
Aseel Hussein, Ayesha Alkhoori, Abdelaziz Al Zaabi, Cesare Stefanini, Federico Renda, Syed Jaffar, Ibrahim Emre Gunduz, Kyriaki Polychronopoulou, Claus Georg Rebholz, and Charalabos Constantinos Doumanidis	