

MRS Advances

International Materials Research Congress XXVII

<https://doi.org/10.1557/adv.2019.132> Published online by Cambridge University Press

MRS Advances: International Materials Research Congress XXVII

Associate Editor:

David F. Bahr, *Purdue University*

Principal Editors:

David F. Bahr, *Purdue University*

Grégory Guisbiers, *University of Arkansas at Little Rock*

Stephanos Konstantinidis, *Université de Mons*

Jeremy Theil, *Mountain View Energy*

Martha Patricia Guerrero Mata, *Universidad Autónoma de Nuevo León*

Rosendo López González, *Universidad Juárez Autonomía de Tabasco*

Eddie López-Honorato, *Centro de Investigación y de Estudios Avanzados del IPN, Unidad Saltillo*

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

ARTICLES

- Composite Materials with Graphenic Materials by Extrusion for 3D Printing** 3891
Ana Lilia Martínez Borja,
José de Jesús Pérez Bueno,
and Maria Luisa Mendoza Lopez
- Synthesis of Aluminum Oxide Nanoparticles by Laser Ablation in Liquids** 3899
Matthew Kasper and Grégory Guisbiers
- Study and Optimization of the Photoluminescence of Amorphous Silicon Carbide Thin Films.** 3905
Maricela Meneses, Mario Moreno,
Alfredo Morales, Alfonso Torres, Pedro Rosales,
and Israel Vivaldo
- Far Field Optical Properties of a Monolayer of SiO₂ Spheres and Small Au Nanoparticles** 3917
A. Santos Gómez and A.L. González
- Stress, Hardness and Elastic Modulus of Bismuth Triiodide (BiI₃)** 3925
Natália F. Coutinho, Silvia Cucatti,
Rafael B. Merlo, Vinicius G. Antunes,
Fernando Alvarez, and Francisco C. Marques
- Silver/Silicon Nanowires/Copper Nanoparticles Heterojunction for Methyl Orange Degradation by Heterogeneous Photocatalysis Under Visible Irradiation.** 3933
María Reina García Robles,
José de Jesús Pérez Bueno,
Crista Selene Arteaga Syllas,
Maria Luisa Mendoza López,
and Federico Manriquez Guerrero

Study of the Effect of the Deposition RF Power on the Characteristics of Microcrystalline Silicon-germanium Thin Films Produced by PECVD	3939
Arturo Torres, Mario Moreno, Pedro Rosales, Miguel Domínguez, Alfonso Torres, Adrian Itzmoyotl, Roberto Ambrosio, and Javier de la Hidalga	
Heat Input Effect on the Microstructure of Twinning-induced Plasticity (TWIP) Steel Welded Joints Through the GTAW Process.	3949
H. Hernández-Belmontes, I. Mejía, V. García-García, and C. Maldonado	
Metallographic, Structural and Mechanical Characterization of REM-containing Fe-30Mn-8Al-1.8C Low Density Steel in As-cast Condition	3957
G.Y. Díaz-Martínez, I. Mejía, V. García-García, and A. Bedolla-Jacuinde	
Microstructural and Mechanical Characterization of Autogenous GTAW Weld in High-manganese Austenitic Steel Ti-containing with Thermal Analysis	3963
V. García-García, I. Mejía, and F. Reyes-Calderón	
Metallographic, Structural and Mechanical Characterization of a Low Density Fe-Mn-Al-C Steel Microalloyed with Ti/B in As-cast and Homogenized Conditions	3971
O.E. Villanueva-Perez, I. Mejía, V. García-García, and A. Bedolla-Jacuinde	
Enhancement of Tribological Properties of Greases for Circuit Breakers.	3979
Brenda Castaños, Cecilia Fernández, Laura Peña-Parás, Demófilo Maldonado-Cortés, and Juan Rodríguez-Salinas	