

**MATERIALS RESEARCH SOCIETY**  
**SYMPOSIUM PROCEEDINGS VOLUME 1788**

# **Light-Matter Phenomena - From Atoms to Complex Structures**

April 6-10, 2015  
San Francisco, California, USA

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

**ISBN: 978-1-5108-2642-7**

**Some format issues inherent in the e-media version may also appear in this print version.**

©Materials Research Society 2015

This reprint is produced with the permission of the Materials Research Society and Cambridge University Press.

This publication is in copyright, subject to statutory exception and to the provisions of relevant collective licensing agreements. No reproduction of any part may take place without the written permission of Cambridge University Press.

Cambridge University Press  
Cambridge, New York, Melbourne, Madrid, Cape Town,  
Singapore, São Paulo, Delhi, Tokyo, Mexico City

Cambridge University Press  
32 Avenue of the Americas, New York, NY 10013-2473, USA  
[www.cambridge.org](http://www.cambridge.org)

Materials Research Society  
506 Keystone Drive, Warrendale, PA 15086  
[www.mrs.org](http://www.mrs.org)

CODEN: MRSPDH

ISBN: 978-1-5108-2642-7

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-part Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## CONTENTS

<b>Novel Plasmonic Nanometal - Rare-Earth Ions co-doped Antimony Glasses for Nanophotonic Applications . . . . .</b>	<b>1</b>
Tirtha Som and Basudeb Karmakar	
<b>Condition for Perfect Resonant Antireflection . . . . .</b>	<b>7</b>
Ken Xingze Wang and Shanhui Fan	
<b>Efficient Stacked OLED processed by Organic Vapor Phase Deposition (OVPD) . . . . .</b>	<b>13</b>
M. Brast, S. Axmann, M. Slawinski, M. Weingarten, F. Lindla, M. Bösing, M. Heuken, A. Vescan, and H. Kalisch	
<b>Color Conversion Using Quantum Dots on High-brightness GaN LED Arrays for Display Application . . . . .</b>	<b>19</b>
Audrey Sanchot, Marianne Consonni, Stéphanie Le Calvez, Ivan C. Robin, and François Templier	
<b>Plasmon Optics and Thermal Dissipation in Nanocomposite Thin Films . . . . .</b>	<b>23</b>
Jeremy R. Dunklin, Gregory T. Forcherio, Keith R. Berry Jr., and D.K. Roper	
<b>3D Printing of NiZn ferrite/ABS Magnetic Composites for Electromagnetic Devices . . . . .</b>	<b>29</b>
Yunqi Wang, Flynn Castles, and Patrick S. Grant	
<b>Terahertz Wavefront Control by Graphene Metasurface . . . . .</b>	<b>37</b>
Takumi Yatooshi, Atsushi Ishikawa, and Kenji Tsuruta	
<b>Multiple Fano Resonances in Plasmonic Metamaterials Composed of Al/Al<sub>2</sub>O<sub>3</sub> Nanomatryushka Structures . . . . .</b>	<b>43</b>
Arash Ahmadvand and Nezh Pah	
<b>Towards Alpha Radiation Detection in Aqueous Solution: VLSI Technology Development for Diamond-silicon Hybrid Sensors . . . . .</b>	<b>49</b>
C. Giese, G. Lewes-Malandrakis, J. de Sanoit, M. Pomorski, and C. Nebel	

**Inkjet-printed Quantum Dot-based Sensor for Structural Health Monitoring . . . . .57**  
Melinda Hartwig, Franz Ortlepp,  
Martin Möbius, Jörg Martin, Thomas Otto,  
Thomas Geßner, and Reinhard R. Baumann