

**MATERIALS RESEARCH SOCIETY**  
**SYMPOSIUM PROCEEDINGS VOLUME 1477**

# **Low-Dimensional Bismuth- based Materials**

August 12-17, 2012  
Cancun, Mexico

**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: 978-1-5108-0482-1**

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

©Materials Research Society 2012

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: 978-1-5108-0482-1

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: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

<b>Electrochemical Deposition of Bismuth Micro- and Nanowires Using Electroplate and Lift Lithography</b> .....	1
<i>T. Hohl, L. Lepak, A. Zimmerman, S. Hempel, A. Sumant, R. Divan, C. Miller, D. Rosenmann, C. Verzani, E. Takacs, M. Zach</i>	
<b>Piezoresponse Force Microscopy Studies on (100), (110) and (111) Epitaxially Growth BiFeO<sub>3</sub> Thin Films</b> .....	7
<i>R. Fernandes, L. Batista, A. Castro, L. Salamanca-Riba, M. Cruz, F. Espinoza-Beltran, S. Hirsekorn, U. Rabe, J. Munoz-Saldana, G. Schneider</i>	
<b>Investigation of Nanometric Thin-Film Bismuth Piezoresistors Deposited on Silicon Substrates</b> .....	14
<i>H. Estrada</i>	
<b>A Detailed Study of the Synthesis of Bismuth Thin Films by PVD-Methods and Their Structural Characterization</b> .....	21
<i>E. Camps, S. Rodil, J. Salas, H. Estrada</i>	
<b>Laser Induced Oxidation Effects in Bismuth Thin Films</b> .....	28
<i>M. Zepeda, M. Picquart, E. Haro-Poniatowski</i>	
<b>Laser Induced Patterning of Bi Thin Films</b> .....	34
<i>C. Zepeda, G. Mecalco, J. Hernandez-Pozos, M. Zepeda, N. Batina, E. Haro-Poniatowski</i>	
<b>Sputtered Bismuth Thin Films As Trace Metal Electrochemical Sensors</b> .....	40
<i>J. Baron, P. Silva-Bermudez, S. Rodill</i>	
<b>Piezoresponse Force Microscopy Studies of pc-BiFeO<sub>3</sub> Thin Films Produced by the Simultaneous Laser Ablation of Bi and FeO<sub>3</sub></b> .....	52
<i>C. Enrique-Flores, J. Gervacio-Arciniega, F. Flores-Ruiz, D. Cardona, E. Camps, J. Munoz-Saldana, F. Espinoza-Beltran</i>	
<b>Author Index</b>	