

MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1338

Phase-Change Materials for Memory and Reconfigurable Electronics Applications

April 25-29, 2011
San Francisco, California, USA

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-61839-533-7

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

©Materials Research Society 2011

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

Materials Research Society
506 Keystone Drive, Warrendale, PA 15086
www.mrs.org

CODEN: MRSPDH

ISBN: 978-1-61839-533-7

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: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Thermal And Elastic Properties Of Ge-Sb-Te Based Phase-Change Materials	1
<i>P. Zalden, C. Bichara, J. Eijk, R. Hermann, I. Sergueev, G. Bruns, S. Buller, W. Bensch, T. Matsunaga, N. Yamada, M. Wuttig</i>	
Optically Induced Sub-Wavelength Transient Apertures in Sb-Te Based Films	9
<i>R. Simpson, P. Fons, A. Kolobov, X. Wang, J. Tominaga</i>	
Epitaxy of Single Crystal Phase Change Materials on Si(111)	15
<i>P. Rodenbach, K. Perumal, F. Katmis, W. Braun, R. Calarco, H. Riechert</i>	
Manipulation Of Amorphous Ge₂Sb₂Te₅ Nano-Structures In Isolated And Crystalline Environment	20
<i>A. Mio, G. D'Arrigo, E. Carria, C. Bongiorno, S. Rossini, C. Spinella, M. Grimaldi, E. Rimini</i>	
Theory Of Conductive Filaments In Threshold Switches	26
<i>V. Karpov, M. Nardone, M. Simon</i>	
A Study of Phase Transition Behaviors of Chalcogenide Layers Using In-situ AC Impedance Spectroscopy	33
<i>Y. Huang, T. Hsieh</i>	
Properties of Phase Change Materials Modified by Ion Implantation	39
<i>S. Raoux, G. Cohen, M. Hopstaken, S. Maurer, J. Sweet</i>	
Energy Landscape Models For Conduction And Drift In Phase Change Memory	51
<i>D. Ielmini, D. Fugazza, M. Boniardi</i>	
Ion implantation of Carbon and Silicon into Ge₂Sb₂Te₅: Ion Profiles and Post Crystallization Redistribution	63
<i>G. Cohen, S. Raoux, M. Hopstaken, S. Maurer</i>	
Author Index	