PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 7067

, "Front Matter: Volume 7067," Proc. SPIE 7067, Advances in Thin-Film Coatings for Optical Applications V, 706701 (13 October 2008); doi: 10.1117/12.812909

SPIE.

Event: Optical Engineering + Applications, 2008, San Diego, California, United States

PROCEEDINGS OF SPIE

Advances in Thin-Film Coatings for Optical Applications V

Jennifer D. T. Kruschwitz

Michael J. Ellison

Editors

11 August 2008

San Diego, California, USA

Sponsored and Published by
SPIE

Volume 7067

Proceedings of SPIE, 0277-786X, v. 7067

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Advances in Thin-Film Coatings for Optical Applications V, edited by Jennifer D. T. Kruschwitz,
Michael J. Ellison, Proc. of SPIE Vol. 7067, 706701, (2008)
0277-786X/08/\$18 · doi: 10.1117/12.812909

Proc. of SPIE Vol. 7067 706701-1

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Advances in Thin-Film Coatings for Optical Applications V*, edited by Jennifer D. T. Kruschwitz, Michael J. Ellison, Proceedings of SPIE Vol. 7067 (SPIE, Bellingham, WA, 2008) Article CID Number.

ISSN 0277-786X

ISBN 9780819472878

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Copyright © 2008, Society of Photo-Optical Instrumentation Engineers

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/08/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.

Contents

v Conference Committee

SESSION 1 ADVANCES IN COATING TECHNOLOGY AND OPTIMIZATION

- 7067 02 **Demonstration of narrowband notch and multi-notch filters (Invited Paper)** [7067-01]
K. D. Hendrix, C. A. Hulse, G. J. Ockenfuss, R. B. Sargent, JDSU (United States)
- 7067 03 **Design and fabrication of large spectral waveband mirror coatings for scanning Fabry-Perot etalons** [7067-02]
C. Evans, COM DEV Ltd. (Canada); M. Poirier, INO Quebec (Canada); A. Scott, D. Touahri, COM DEV Ltd. (Canada); S. Ilias, INO Quebec (Canada); R. Doyon, Univ. de Montréal (Canada)
- 7067 05 **Integrated optics based on plasma processed dielectric materials** [7067-04]
T. Begou, Institut des Matériaux Jean Rouxel, Univ. de Nantes, PCM UMR CNRS 6502 (France); B. Bêche, Institut de Physique, Univ. de Rennes I, UMR CNRS 6251 (France); J. P. Landesman, Institut des Matériaux Jean Rouxel, Univ. de Nantes, PCM UMR CNRS 6502 (France); E. Gaviot, Lab. d'Acoustique, Univ. du Maine, CNRS (France); A. Soussou, K. Makaoui, M. P. Besland, A. Granier, A. Goulet, Institut des Matériaux Jean Rouxel, Univ. de Nantes, PCM UMR CNRS 6502 (France)
- 7067 06 **Analysis of sensitivity for optical monitoring in runsheet and admittance diagram** [7067-05]
Y.-J. Chen, C.-C. Lee, National Central Univ. (Taiwan)

SESSION 2 CHARACTERIZATION AND OPTIMIZATION OF DEEP ULTRAVIOLET OPTICS

- 7067 07 **Characterization of thin and thick films by means of corona-assisted surface potential measurements** [7067-06]
N. Kaabouch, Univ. of North Dakota (United States)
- 7067 08 **Deposition and characterization of challenging DUV coatings** [7067-07]
P. Kelkar, B. Tirri, R. Wilklow, D. Peterson, ASML US, Inc. (United States)
- 7067 09 **Coating induced phase aberration in a Schwarzschild objective** [7067-08]
S. Edlou, L. Sun, C. Synborski, CVI Melles Griot Inc. (United States)

SESSION 3 NOVEL MATERIAL SYNTHESIS

- 7067 0A **Nanocomposite thin films exhibiting high mechanical and optical flexibility** [7067-10]
T. Druffel, O. Buazza, M. Lattis, S. Farmer, Optical Dynamics (United States)

- 7067 OE **Structural and optical properties of $\text{Zn}_{1-x}\text{Mg}_x\text{O}$ films grown by pulsed laser deposition** [7067-14]
P. S. Krishnaprasad, E. K. Ragitha, M. K. Jayaraj, Cochin Univ. of Science and Technology (India)
- 7067 OF **Some studies on TiO_2 films deposited by sol-gel technique** [7067-15]
K. Narasimha Rao, Indian Institute of Science (India); M. Vishwas, Government Science College (India); S. Kumar Sharma, Indian Institute of Science (India); K. V. Arjuna Gowda, Government Science College (India)
- 7067 OG **Optical constant of SiO_x films in mid-IR range prepared by ion-assisted deposition** [7067-16]
S.-L. Ku, C.-C. Lee, National Central Univ. (Taiwan)

POSTER SESSION

- 7067 OH **Microstructure- and optic-related characteristics of magnesium oxide thin film** [7067-17]
M.-C. Liu, National Central Univ. (Taiwan) and Industrial Technology Research Institute (Taiwan); S.-C. Yang, C.-C. Lee, National Central Univ. (Taiwan); S.-P. Chen, J.-Y. Li, Y.-P. Lin, Industrial Technology Research Institute (Taiwan)
- 7067 OJ **Adjusting the characteristic deviations of guided-mode resonant filters using the cover layer** [7067-25]
D. Zhang, Q. Wang, J.-B. Chen, S.-L. Zhuang, Univ. of Shanghai for Science and Technology (China); H. He, Shanghai Institute of Optics and Fine Mechanics (China)
- 7067 OK **SiN_x optical thin films prepared by RF ion-beam sputtering and residual stress elimination technique** [7067-27]
K.-H. Lee, C.-J. Tang, National Central Univ. (Taiwan); C.-C. Jaing, Minghsin University of Science and Technology (Taiwan); H.-C. Chen, De Lin Institute of Technology (Taiwan); C.-C. Lee, National Central Univ. (Taiwan)
- 7067 OM **Surface and material characteristics of Ga_2O_3 thin films on GaAs** [7067-29]
P.-F. Huang, Y.-T. Chen, National Taiwan Univ. (Taiwan); H. Y. Lee, National Formosa Univ. (Taiwan); Z. C. Feng, H.-H. Lin, National Taiwan Univ. (Taiwan); W. Lu, Fisk Univ. (United States)
- 7067 OO **Enhancement of the stability of ion-beam assisted TiO_2 thin films by using re-annealing with different substrate temperatures** [7067-31]
H.-C. Chen, De Lin Institute of Technology (Taiwan); K.-S. Lee, National Central Univ. (Taiwan); C.-C. Jaing, Ming Hsin Univ. of Science and Technology (Taiwan); C.-C. Lee, National Central Univ. (Taiwan)
- 7067 OP **Miniaturized multilayer dielectric coatings using metal masks fabricated by electroforming and photolithography technologies** [7067-32]
C.-C. Jaing, Ming Hsin Univ. of Science and Technology (Taiwan); C.-R. Yang, National Taiwan Normal Univ. (Taiwan); C.-M. Chang, National Taiwan Normal Univ. (Taiwan) and Instrument Technology Research Ctr. (Taiwan); Y.-H. Chang, C.-T. Lee, C.-N. Hsiao, Instrument Technology Research Ctr. (Taiwan)

Author Index

Conference Committee

Program Track Chair

José M. Sasian, College of Optical Sciences, The University of Arizona
(United States)

Conference Chairs

Jennifer D. T. Kruschwitz, JK Consulting (United States)
Michael J. Ellison, Alpine Research Optics Corporation (United States)

Program Committee

Stuart T. Allan, Qioptiq Coatings, Ltd. (United Kingdom)
Michael L. Fulton, Ion Beam Optics Inc. (United States)
Sen Han, Veeco Instruments, Inc. (United States)
Carol L. Martinez, Ion Beam Optics Inc. (United States)
Robert J. Sczupak, Reynard Corporation (United States)
Ian C. Stevenson, Quantum Coating, Inc. (United States)

Session Chairs

- 1 Advances in Coating Technology and Optimization
Jennifer D. T. Kruschwitz, JK Consulting (United States)
- 2 Characterization and Optimization of Deep Ultraviolet Optics
Michael J. Ellison, Alpine Research Optics Corporation (United States)
- 3 Novel Material Synthesis
Robert J. Sczupak, Reynard Corporation (United States)