

MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 905

Materials for Transparent Electronics

November 28 – December 2, 2005
Boston, Massachusetts, USA

Printed from e-media with permission by:

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

ISBN: 1-55899-860-8

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

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
<http://www.mrs.org>

©Materials Research Society 2028

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.

First published 2028

CODEN: MRSPDH

ISBN: 3/77: ; /: 82/:

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

- 1 High Electron Mobility W-Doped In₂O₃ Thin Films**
Keszler, Douglas;Newhouse, Paul;Nyholm, Peter;Park, Cheol-Hee;Tate, Janet
- 7 ZITO (ZnO-SnO₂-In₂O₃) Transparent Conducting Oxides: Electrical and Optical Properties of DC Magnetron Sputtered Films**
Ow-Yang, Cleva;Paine, David;Yaglioglu, Burag;Yeom, Hyo-Yong
- 13 New Transparent Conductors Anatase Ti_{1-x}M_xO₂ (M=Nb,Ta): Transport and Optical Properties**
Chikyow, Toyohiro;Furubayashi, Yutaka;Hasegawa, Tetsuya;Hirose, Yasushi;Hitosugi, Taro;Nakajima, Kiyomi;Otani, Makoto;Shimada, Toshihiro;Yamamoto, Yukio
- 19 The Fabrication and Characterization of Amorphous Indium Zinc Oxide (In₂O₃:10wt%ZnO) Based Thin Film Transistors**
Beresford, Roderic;Paine, David;Yaglioglu, Burag;Yeom, Hyo-Young
- 24 Solution-Processed ZnO Nanowire Network Thin Film Transistors for Transparent Electronics**
Bakhishev, Teymur;Subramanian, Vivek;Volkman, Steven
- 29 Structural and Optical Properties of Delafossite-Type CuAlO₂ Thin Films Prepared by RF Reactive Sputtering**
Lu, Y.;Meyer, B.;Neumann, C.;Polity, A.;Wang, C.;Yang, B.
- 35 Molybdenum Doped Indium Oxide Thin Films Prepared by Rf Sputtering**
Elangovan, Elamurugu;Fortunato, Elvira;Marques, Antonio;Martins, Rodrigo;Pimentel, Ana
- 41 Photoinduced Solid Phase Transformation in Vanadium Dioxide Films**
Fernandez, Felix;Liu, Huimin;Lysenko, Sergiy;Rua, Armando;Vikhnin, Valentin
- 47 Reliable Semi-Transparent Pentacene Thin-Film Transistors with Polymer Gate Dielectric Layers Cured at an Optimum Temperature**
Choi, Jeong Min;Hwang, Do Kyung;Im, Seongil;Jeong, Seong Hun;Kim, Eugene;Kim, Jae Hoon;Lee, Jiyoul;Park, Ji Hoon
- 53 Variable Temperature Capacitance-Voltage Measurements to Investigate the Density of Localized Trapping Levels in Organic Semiconductors**
Badriya, Samer;Donaghy, David;Eccleston, Bill;Higgins, Simon;Raja, Munira;Sedghi, Naser
- 59 Nanoscale Measurements in Organic Memory Devices from C₆₀ in Insulating Polymers**
Chhowalla, Manish;Kanwal, Alokik

65 Two-Dimensional Carbon Nanotube Networks: A Transparent Electronic Material
Gruener, George

76 Free-Standing Diamond Single Crystal Film for Electronics Applications
Butler, James;Chow, T.;Huang, Weixiao;Yang, Jie