

Cambridge University Press

978-1-605-11301-2 - Compound Semiconductors for Energy Applications and Environmental Sustainability—2011: Materials Research Society Symposium Proceedings Volume 1324
 Edited by L. Douglas Bell, F. (Shadi) Shahedipour-Sandvik, Kenneth A. Jones, Daniel Schaadt,
 Blake S. Simpkins and Miguel A. Contreras

Table of Contents

[More information](#)

CONTENTS

Preface	ix
Materials Research Society Symposium Proceedings.....	xi
<i>NITRIDES</i>	
Indium Gallium Nitride on Germanium by Molecular Beam Epitaxy	3
R.R. Lieten, W.-J. Tseng, M. Leys, J.-P. Locquet, and J. Dekoster	
Crack-free III-nitride Structures (> 3.5 μm) on Silicon.....	9
Mihir Tungare, Jeffrey M. Leathersich, Neeraj Tripathi, Puneet Suvarna, Fatemeh (Shadi) Shahedipour-Sandvik, Timothy A. Walsh, Randy P. Tompkins, and Kenneth A. Jones	
Comparison of Aluminum Nitride Nanowire Growth with and without Catalysts via Chemical Vapor Deposition	17
Kasif Teker and Joseph A. Oxenham	
Enhanced Light Emission at Self-assembled GaN Inversion Domain Boundary.....	23
Mei-Chun Liu, Yuh-Jen Cheng, Jet-Rung Chang, and Chun-Yen Chang	
* AlGaN Channel HEMT with Extremely High Breakdown Voltage	29
Takuma Nanjo, Misaichi Takeuchi, Akifumi Imai, Yousuke Suzuki, Muneyoshi Suita, Katsuomi Shiozawa, Yuji Abe, Eiji Yagyu, Kiichi Yoshiara, and Yoshinobu Aoyagi	
Fabrication and Optical Properties of Green Emission Semipolar {10̄11} InGaN/GaN MQWs Selective Grown on GaN Nanopyramid Arrays	37
Shih-Pang Chang, Jet-Rung Chang, Ji-Kai Huang, Jinchai Li, Yi-Chen Chen, Kuok-Pan Sou, Yun-Jing Li, Hung-Chih Yang, Ta-Cheng Hsu, Tien-Chang Lu, Hao-Chung Kuo, and Chun-Yen Chang	

*Invited Paper

Cambridge University Press

978-1-605-11301-2 - Compound Semiconductors for Energy Applications and Environmental Sustainability—2011: Materials Research Society Symposium Proceedings Volume 1324
Edited by L. Douglas Bell, F. (Shadi) Shahedipour-Sandvik, Kenneth A. Jones, Daniel Schaadt, Blake S. Simpkins and Miguel A. Contreras

Table of Contents

More information

CdTe/CdS

Morphology Control of Copper Indium Disulfide

- Nanocrystals** 45
Marta Kruszynska, Holger Borchert, Jürgen Parisi,
and Joanna Kolny-Olesiak

A Comparative Study of the Thin-Film CdTe Solar Cells with ZnSe/TCO and the CdS/TCO

- | | |
|--|-------|
| Cells with ZnS/C ₆₀ and the CuS/C ₆₀ | 51 |
| Buffer Layers | |
| Tamara Potlog, Nicolae Spalatu, Arvo Mere | |

Influence of Surface Preparation on Scanning Kelvin Probe Microscopy and Electron Backscatter Diffraction Analysis of Cross Sections of CdTe/CdS Solar Cells

- Solar Cells** 57
H.R. Moutinho, R.G. Dhere, C.-S. Jiang,
and M.M. Al-Jassim

- ## Influence of Annealing in H₂ Atmosphere on the Electrical Properties of the Poly(3,4-Ethylenedioxythiophene) Film

Properties of Thin Film CdS
Natalia Maticiuc, Jaan Hiie, Tamara Potlog,
Uku Vaher and Alar Viigipuu

- Vello Valdna, and Aleksei Gavrilov

CIGS/CIS

Properties of $\text{CuIn}_{1-x}\text{Ga}_x\text{Se}_2$ Films Prepared by the Rapid Thermal Annealing of Spray-deposited Cu-In-Ga-S-Se-Like S

- CuIn_{1-x}Ga_xS₂** and Se 77
Laura E. Slaymaker, Nathan M. Hoffman,
Matthew A. Ingersoll, Matthew R. Jensen, Jiří Olejníček,
Christopher L. Exstrom, Scott A. Darveau,
Rodney J. Soukup, Natale J. Ianno, Amitabha Sarkar,
and Štěpán Kment

Cambridge University Press

978-1-605-11301-2 - Compound Semiconductors for Energy Applications and Environmental Sustainability—2011: Materials Research Society Symposium Proceedings Volume 1324
 Edited by L. Douglas Bell, F. (Shadi) Shahedipour-Sandvik, Kenneth A. Jones, Daniel Schaadt,
 Blake S. Simpkins and Miguel A. Contreras

Table of Contents

[More information](#)

I-III-VI₂ (Copper Chalcopyrite-based) Thin Films for Photoelectrochemical Water-splitting Tandem-hybrid Photocathode	83
Jess M. Kaneshiro, Alexander Deangelis, Xi Song, Nicolas Gaillard, and Eric L. Miller	
Identification of Impurity Phases in Cu₂ZnSnS₄ Thin-film Solar Cell Absorber Material by Soft X-ray Absorption Spectroscopy	91
M. Bär, B.-A. Schubert, R.G. Wilks, B. Marsen, Y. Zhang, M. Blum, S. Krause, W. Yang, T. Unold, L. Weinhardt, C. Heske, and H.-W. Schock	
* Kesterites and Chalcopyrites: A Comparison of Close Cousins	97
Ingrid Repins, Nirav Vora, Carolyn Beall, Su-Huai Wei, Yanfa Yan, Manuel Romero, Glenn Teeter, Hui Du, Bobby To, Matt Young, and Rommel Noufi	
Impact of Thickness Variation of the ZnO:Al Window Layer on Optoelectronic Properties of CIGSSe Solar Cells	109
Jan Keller, Martin Knipper, Jürgen Parisi, Ingo Riedel, Thomas Dalibor, and Alejandro Avellan	
Fabrication of High Efficiency Flexible CIGS Solar Cell with ZnO Diffusion Barrier on Stainless Steel Substrate	115
Bae Dowon, Kwon Sehan, Oh Joonjae, Lee Joowon, and Kim Wooyoung	
Copper Indium Diselenide Thin Films Using a Hybrid Method of Chemical Bath Deposition and Thermal Evaporation	121
R. Ernesto Ornelas A, Sadasivan Shaji, Omar Arato, David Avellaneda, Alan Castillo, Tushar Kanti Das Roy, and Bindu Krishnan	

III-V AND OTHER MATERIALS

The Two Origins of p-type Conduction in Transparent Conducting Ga-doped SnO₂ Thin Films	131
Huan-hua Wang, Tieying Yang, Baoyi Wang, Kurash Ibrahim, and Xiaoming Jiang	

*Invited Paper

Cambridge University Press

978-1-605-11301-2 - Compound Semiconductors for Energy Applications and Environmental Sustainability—2011: Materials Research Society Symposium Proceedings Volume 1324
Edited by L. Douglas Bell, F. (Shadi) Shahedipour-Sandvik, Kenneth A. Jones, Daniel Schaadt,
Blake S. Simpkins and Miguel A. Contreras

Table of Contents

[More information](#)

DEMUX SiC Optical Transducers for Fluorescent Proteins Detection	137
M. Vieira, P. Louro, M.A. Vieira, M. Fernandes, and J. Costa	
Transmission Electron Microscopy of Misfit Dislocation and Strain Relaxation in Lattice Mismatched III-V Heterostructures Versus Substrate Surface Treatment	143
Y. Wang, P. Ruterana, L. Desplanque, S. El Kazzi, and X. Wallart	
Structure and Photocatalytic Properties of $\text{Bi}_{25}\text{FeO}_{40}$ Crystallites Derived from the PEG Assisted Sol-gel Methods	149
Shundong Bu, Dengrong Cai, Jianmin Li, Shengwen Yu, Dengren Jin, and Jinrong Cheng	
Zinc Nitride Films by Reactive Sputtering of Zn in N_2-containing Atmosphere	157
Nanke Jiang, Daniel G. Georgiev, Ahalapitiya H. Jayatissa, and Ting Wen	
Author Index	163
Subject Index	165