

## Table of Contents :

	page
Preface	iii
List of Symposia Organizers	iv
<b>Narrow Bandgap Optoelectronic Materials and Devices</b>	1
Localization, Defect, and Transport Processes in Molecular Beam Epitaxy and Metal-Organic Chemical Vapor Deposition Grown InGaAsN (~ 2% N) ( <i>Invited</i> )	3
<b>S. R. Kurtz</b> , A. A. Allerman, J. F. Klem, R. M. Sieg, C. H. Seager, and E. D. Jones	
MBE Growth and Characterization of Room Temperature High-Power 2.5mm InGaAsSb QW Laser Diodes Emitting 1W Continuous Wave ( <i>Invited</i> )	11
<b>J. G. Kim</b> , L. Shterengas, R. U. Martinelli, G. L. Belenky, W. K. Chan, and L. Di Marco	
Origin of Improved Luminescence Efficiency After Annealing of Ga(In)Nas Materials Grown by Molecular Beam Epitaxy ( <i>Invited</i> )	18
<b>W. Li</b> , M. Pessa, T. Ahlgren, J. Dekker	
Advances in InAs/InGaSb Superlattices for Very Long Wavelength Infrared Detection ( <i>Invited</i> )	29
<b>G. J. Brown</b>	
Interface Bonding Effects on Antimonide Device Properties ( <i>Invited</i> )	39
<b>M. E. Flatte</b> , W. H. Lau	
Time-Resolved Measurement of Carrier Dynamics in 6.1 Angstrom Heterostructures ( <i>Invited</i> )	50
<b>T. F. Boggess</b> , K. C. Hall, K. Gundogdu, E. Atlunkaya, C. Yu, J. T. Olesberg, J. J. Zinck, W. B. Barvosa-Carter, and S. L. Skeith	
MOCVD Growth and Characterization of InNAs on GaAs – A New Narrow-Gap Semiconductor ( <i>Invited</i> )	60
<b>M. Osinski</b> , N. Nuntawong, H. Cao, E. Zhmayev, and A.-R. A. El-Emawy,	
Low Temperature Photoluminescence Studies of GaAsSbN Narrow Bangap Quantum Wells on GaAs	72
<b>E. D. Jones</b> , N. A. Modine, K. E. Waldrip, F. Jaladi, J. F. Klem, and G. M. Peake	

Enhancement of Electron- Initiated Impact Ionization in Superlattice- Based Mid- and Long-Wavelength Infrared Avalanche Photodiodes <i>(Invited)</i>	80
C. H. Grein, K. Abu El-Rub, and M. E. Flatte	
Recent Developments in Infrared Sensing Using Typed II INAS/GASB Superlattice and Quantum Dots <i>(Invited)</i>	88
M. Razeghi, Y. Wei, A. Gin, A. David	
<b>Thirty Seventh State of the Art Programs on Compound Semiconductors (SOTAPOCS XXXVII)</b>	99
Potential Dependent Photoluminescence of GaN Contacts to Gold and to Aqueous Electrolyte	101
C. Heffernan, E. Harvey, C. O’Raifertaigh, and D. N. Buckley	
High Current Bulk GaN Schottky Rectifier	112
K. Ip, K. H. Baik, B. Luo, F. Ren, S. J. Pearton, S. S. Park, Y. J. Park, and A. P. Zhang	
AlInGaN-Based UV LEDs <i>(Invited)</i>	120
S. Sakai, T. Sugahara, Y. B. Lee, T. Wang, Y. Liu, and H. Li	
An AlGaIn/GaN HEMT with WN <sub>x</sub> T-Gate for High Temperature Application	131
Y. L. Huang, C. Y. Fang, E. Y. Chang, C. S. Lee, S. H. Chen, H. M. Lee, Y. C. Lien, and C. T. Lee	
Improved FET performance by suppression of sheet resistance increase in AlGaIn/GaN 2DEG structures	139
K. Shiojima, and N. Shigekawa	
Simulation and Experimental Characteristics of 4H-SiC Schottky Power Rectifiers	144
S. Nigam, J. Kim, B. Luo, F. Ren, G. Chung, M. F. MacMillan, J. R. Williams, and S. J. Pearton	
HBT and pHEMT Technologies for Wireless and Lightwave Communications <i>(Invited)</i>	154
Y. C. Wang, M. Chertouk, D. W. Tu, and P. C. Chao	
Processing of Very Low Dark Current High Speed Infrared Photodetectors for Telecommunication Applications	166
R. Mehandru, B. Luo, F. Ren, P. Shen, K. Aliberti, S. N. G. Chu, J. R. Lothian, and S. J. Pearton	

InGaAs Metal-Semiconductor-Metal Photodetectors Under High-Power Illumination ( <i>Invited</i> ) <b>P. H. Shen, K. Aliberti, M. Stead, G. Dang, and M. Wraback</b>	174
A High Performance, High Yield, and High Throughput VCSEL Process Technology ( <i>Invited</i> ) <b>H.C. Kuo, J. Shi, M. Trieu, X. Dong, H. Yao, C.P. Kuo, and A. Liao</b>	182
Improvements in Direct-Current Characteristics of Reduced Turn-On Voltage Al <sub>0.45</sub> Ga <sub>0.55</sub> As/GaAs Digital Graded Superlattice-Emitter Heterojunction Bipolar Transistors by Wet-Oxidation <b>M.-K. Tsai, and Y.-J. Yang</b>	189
Monolithic Integration of Optoelectronic Devices Using Quantum Well Intermixing ( <i>Invited</i> ) <b>M. Osinski</b>	196
A Comparison Between Cermet and Bulk Resistors Using a Blowout Testing Method <b>E. Sabin, and J. Scarpulla</b>	216
Photoresponse of Spray pyrolytically Fabricated Wide Bandgap n-TiO <sub>2</sub> Thin Films in the Water -Splitting Reaction <b>S. U. M. Khan, and J. Akikusa</b>	223
Anodic Oxidation of InP in KOH Electrolytes <b>C. O'Dwyer, T. Melly, E. Harvey, D. N. Buckley, V. J. Cunnane, M. Serantoni, D. Sutton, and S. B. Newcomb</b>	233
Comparison of the Behaviours of GaAs and InP in the Presence of SiMo <sub>12</sub> O <sub>40</sub> <sup>4-</sup> in Acidic Solution <b>A. Quennoy, A. Etcheberry, and C. Debiemme-Chouvy</b>	241
Influence of Co(II) Ions upon the Etching Process of N- and P-Type GaAs Electrodes in Boric Acid Solutions <b>E. M. M. Sutter, and C. Debiemme-Chouvy</b>	249
Formation and Characterization of Porous InP Layers in KOH Solutions <b>C. O'Dwyer, D. N. Buckley, V. J. Cunnane, D. Sutton, M. Serantoni, and S. B. Newcomb</b>	259
Study by in situ UV/vis Spectroelectrochemistry of the Oxidation of Polysulfides at a GaAs Electrode <b>C. Debiemme-Chouvy, C. Wartelle, F.-X. Sauvage</b>	270

Comparison of Oscillatory Behavior on InP Electrodes in KOH and (NH <sub>4</sub> ) <sub>2</sub> S	275
<b>C. O'Dwyer</b> , T. Melly, E. Harvey, D. N. Buckley, V. J. Cunnane, D. Sutton, and S. B. Newcomb	
Environmental Friendly, Fast Electrochemical Sketching of Silicon	286
<b>D. Starosvetsky</b> , M. Kovler, J. Yahlom, and Y. Elin-Eli	
Bright Future for GaN-on-Silicon ( <i>Invited</i> )	300
<b>A. Dadgar</b> , M. Poscherieder, J. Blasing, O. Contreras, F. Bertram, T. Riemann, A. Reiher, M. Kunze, I. Daumiller, A. Krtschil, A. Diez, A. Kaluza, A. Modlich, M. Kamp, J. Christen, F. A. Ponce, E. Kohn, and A. Krost	
Ultra-Low Threshold Sapphire Substrate-Bonded 850 nm VCSEL Array ( <i>Invited</i> )	311
J. J. Liu , B. Riely, P. H. Shen , N. Das, <b>W. Chang</b>	
Subject Index	317
Author Index	323