

PAGE SPECIAL ISSUE: 2009 U.S. WORKSHOP ON THE PHYSICS AND CHEMISTRY OF II-VI MATERIALS

- 831 Foreword
S. Sivananthan, N.K. Dhar, Y. Anter, and T.N. Casselman
- 837 Shockley-Haynes Characterization of Minority-Carrier Drift Velocity, Diffusion Coefficient, and Lifetime in HgCdTe Avalanche Photodiodes
Johan Rothman, G. Vojetta, B. Moselle, L. Mollard, S. Gout, and J.-P. Chamonal
- 846 Two-Dimensional Long-Wavelength and Very Long-Wavelength Focal-Plane Arrays at AIM
J. Wenisch, D. Eich, S. Hanna, A. Bauer, H. Bitterlich, M. Bruder, K.-M. Mahlein, H. Lutz, R. Wollrab, and J. Ziegler
- 852 Radiation Damage in Type II Superlattice Infrared Detectors
E.M. Jackson, E.H. Aifer, C.L. Canedy, J.A. Nolde, C.D. Cress, B.D. Weaver, I. Vurgaftman, J.H. Warner, J.R. Meyer, J.G. Tischler, S.A. Shaw, and C.R. Dedianous
- 857 Effect of Hydrogen Free Radicals on $Hg_{1-x}Cd_xTe$
J.A. Wilks, C.M. Tavakoli, and J.A. Kelber
- 863 Metalorganic Chemical Vapor Deposition of CdTe(133) Epilayers on Si(211) Substrates
Kwang-Chon Kim, Hyun Jae Kim, Sang-Hee Suh, M. Carmody, S. Sivananthan, and Jin-Sang Kim
- 868 Photoluminescence Studies of HgCdTe Epilayers
I.C. Robin, M. Taupin, R. Derone, P. Ballet, and A. Lusson
- 873 MWIR and LWIR HgCdTe Infrared Detectors Operated with Reduced Cooling Requirements
S. Velicu, C.H. Grein, P.Y. Emelie, A. Itsuno, J.D. Phillips, and P. Wijewarnasuriya
- 882 MBE-Grown II-VI and Related Nanostructures
I.K. Sou, S.K. Lok, G. Wang, N. Wang, and G.K.L. Wong
- 893 HgCdTe Research at FFI: Molecular Beam Epitaxy Growth and Characterization
R. Haakenaasen, E. Selvig, C.R. Tonheim, K.O. Kongshaug, T. Lorentzen, L. Trosdahl-Iversen, J.B. Andersen, and P. Gundersen
- 903 Nonvolatile Memories Using Quantum Dot (QD) Floating Gates Assembled on II-VI Tunnel Insulators
E. Suarez, M. Gogna, F. Al-Amoody, S. Karmakar, J. Ayers, E. Heller, and F. Jain
- 908 Lattice Relaxation and Dislocation Reduction in MBE CdTe(211)B/Ge(211)
Giacomo Badano, Patrice Gergaud, Ivan C. Robin, Xavier Baudry, Benoit Amstatt, and Frédérique Gemain
- 912 Full-Band Monte Carlo Simulation of HgCdTe APDs
Francesco Bertazzi, Michele Moresco, Michele Penna, Michele Goano, and Enrico Bellotti
- 918 Growth of HgTe Quantum Wells for IR to THz Detectors
S. Dvoretzky, N. Mikhailov, Yu. Sidorov, V. Shvets, S. Danilov, B. Wittman, and S. Ganichev
- 924 Microstructural Characterization of CdTe Surface Passivation Layers
W.F. Zhao, J. Cook, T. Parodos, S. Tobin, and David J. Smith
- 930 Wafer Mapping Using Deuterium Enhanced Defect Characterization
K. Hossain, O.W. Holland, R. Hellmer, B. VanMil, L.O. Bubulac, and T.D. Golding
- 936 Electronic and Optical Properties of $Mg_{1-x}Zn_xO$ and $Be_{1-x}Zn_xO$ Quantum Wells
Enrico Furno, Simone Chiarra, Michele Penna, Enrico Bellotti, and Michele Goano
- 945 Arsenic Diffusion Study in HgCdTe for Low *p*-Type Doping in Auger-Suppressed Photodiodes
A.M. Itsuno, P.Y. Emelie, J.D. Phillips, S. Velicu, C.H. Grein, and P.S. Wijewarnasuriya
- 951 Evaluation of Surface Cleaning of Si(211) for Molecular-Beam Epitaxy Deposition of Infrared Detectors
M. Jaime-Vasquez, R.N. Jacobs, J.D. Benson, A.J. Stoltz, L.A. Almeida, L.O. Bubulac, Y. Chen, and G. Brill
- 958 Effects of HgCdTe on the Optical Emission of Inductively Coupled Plasmas
A.J. Stoltz, J.D. Benson, and P.J. Smith

- 967 Dislocation Reduction of HgCdTe/Si Through *Ex Situ* Annealing
G. Brill, S. Farrell, Y.P. Chen, P.S. Wijewarnasuriya, Mulpuri V. Rao, J.D. Benson, and N. Dhar
- 974 HgCdTe Growth on 6 cm × 6 cm CdZnTe Substrates for Large-Format Dual-Band Infrared Focal-Plane Arrays
M. Reddy, J.M. Peterson, D.D. Lofgreen, T. Vang, E.A. Patten, W.A. Radford, and S.M. Johnson
- 981 Accurate Simulation of Temperature-Dependent Dark Current in HgCdTe Infrared Detectors Assisted by Analytical Modeling
Weida Hu, Xiaoshuang Chen, Zhenhua Ye, Jing Zhang, Fei Yin, Chun Lin, Zhifeng Li, and Wei Lu
- 986 Monte Carlo Modeling of VLWIR HgCdTe Interdigitated Pixel Response
A.I. D'Souza, M.G. Stapelbroek, and P.S. Wijewarnasuriya
- 992 Self-Assembled CdTe Quantum Dots Grown on ZnTe/GaSb
R.E. Pimpinella, X. Liu, J.K. Furdyna, M. Dobrowolska, A.M. Mintairov, and J.L. Merz
- 996 Cyclic Annealing During Metalorganic Vapor-Phase Epitaxial Growth of (211)B CdTe on (211) Si Substrates
S.R. Rao, S.S. Shintri, J.K. Markunas, R.N. Jacobs, and I.B. Bhat
- 1001 LWIR Strained-Layer Superlattice Materials and Devices at Teledyne Imaging Sensors
Andrew D. Hood, Allan J. Evans, Amal Ikhlassi, Donald L. Lee, and William E. Tennant
- 1007 Achieving Manufacturing Readiness for 6-Inch HgCdTe on Silicon
L.A. Paden, J.W. Bangs, R.M. Emerson, R.M. Olshove, E.M. Norton, D.A. Garnett, E. Smith, K.A. Garvine, J.M. Peterson, and M. Reddy
- 1015 Effective Surface Passivation of CdMnTe Materials
K.H. Kim, V. Carcelén, A.E. Bolotnikov, G.S. Camarda, R. Gul, A. Hossain, G. Yang, Y. Cui, and R.B. James
- 1019 A Study of Sidewall Effects in HgCdTe Photoconductors Passivated with MBE-Grown CdTe
J. Zhang, G.K.O. Tsen, J. Antoszewski, J.M. Dell, L. Faraone, and W.D. Hu
- 1023 Investigation of Multicarrier Transport in LPE-Grown Hg_{1-x}Cd_xTe Layers
G.A. Umana-Membreno, J. Antoszewski, L. Faraone, E.P.G. Smith, G.M. Venzor, S.M. Johnson, and V. Phillips
- 1030 "Rule 07" Revisited: Still a Good Heuristic Predictor of *p/n* HgCdTe Photodiode Performance?
W.E. Tennant
- 1036 Feasibility of Localized Substrate Thinning for Reduced Dislocation Density in CdTe/Si Heterostructures
R.N. Jacobs, P.J. Smith, J.K. Markunas, J.D. Benson, and J. Pellegrino
- 1043 HgCdTe: Recent Trends in the Ultimate IR Semiconductor
Michael A. Kinch
- 1053 Investigation of Cadmium Manganese Telluride Crystals for Room-Temperature Radiation Detection
G. Yang, A.E. Bolotnikov, L. Li, G.S. Camarda, Y. Cui, A. Hossain, K. Kim, V. Carcelén, R. Gul, and R.B. James
- 1058 MBE Growth and Transfer of HgCdTe Epitaxial Films from InSb Substrates
T.J. de Lyon, R.D. Rajavel, B.Z. Nosho, S. Terterian, M.L. Belicic, P.R. Patterson, D.T. Chang, M.F. Boag-O'Brien, B.T. Holden, R.N. Jacobs, and J.D. Benson
- 1063 Simulations of Dislocations in CdZnTe/SL/Si Substrates
Anthony J. Ciani and Peter W. Chung
- 1070 Shallow-Etch Mesa Isolation of Graded-Bandgap "W"-Structured Type II Superlattice Photodiodes
E.H. Aifer, J.H. Warner, C.L. Canedy, I. Vurgaftman, E.M. Jackson, J.G. Tischler, J.R. Meyer, S.P. Powell, K. Olver, and W.E. Tennant
- 1080 Characterization of Dislocations in (112)B HgCdTe/CdTe/Si
J.D. Benson, L.O. Bubulac, P.J. Smith, R.N. Jacobs, J.K. Markunas, M. Jaime-Vasquez, L.A. Almeida, A.J. Stoltz, P.S. Wijewarnasuriya, G. Brill, Y. Chen, U. Lee, M.F. Vilela, J. Peterson, S.M. Johnson, D.D. Lofgreen, D. Rhiger, E.A. Patten, and P.M. Goetz
- 1087 Molecular Beam Epitaxially Grown HgTe and HgCdTe-on-Silicon for Space-Based X-Ray Calorimetry Applications
P. Dreiske, M. Carmody, C.H. Grein, J. Zhao, R. Bommens, C.A. Kilbourne, R. Kelley, D. McCammon, and D. Brandl
- 1097 Numerical Simulation of ZnO-Based Terahertz Quantum Cascade Lasers
Enrico Bellotti and Roberto Paiella
- 1104 Atmospheric Effects on the Performance of CdZnTe Single-Crystal Detectors
Aaron L. Washington II, Lucile C. Teague, Martine C. Duff, Arnold Burger, Michael Groza, and Vladimir Buliga
- 1110 Analysis of Current-Voltage Measurements on Long-Wavelength HgCdTe Photodiodes Fabricated on Si Composite Substrates
Priyalal Wijewarnasuriya, Yuanping Chen, Greg Brill, Nibir Dhar, David Benson, Lucia Bubulac, and Dennis Edwall
- 1118 Electrical Properties of Halogen-Doped CdTe Layers on Si Substrates Grown by Metalorganic Vapor-Phase Epitaxy
K. Yasuda, M. Niraula, H. Oka, T. Yoneyama, K. Matsumoto, H. Nakashima, T. Nakanishi, D. Katoh, and Y. Agata