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Sandia National Laboratories

SPIE Optics+Photonics

Invited Papers

NanoScience + Engineering

Metamaterials: Fundamentals and Applications V (8455)

Electronically switchable terahertz metamaterial devices (8455-94)

Kim Reichel, Nicholas Karl, Wai Lam Chan, Daniel M. Mittleman, Rice Univ. (U.S.); Hou-Tong Chen, Antoinette J. Taylor, The Ctr. for Integrated Nanotechnologies (U.S.); Igal Brener, Michael J. Cich, Sandia National Labs. (U.S.)

Active and Tunable Metamaterials

16 August 2012 • 3:35 - 4:00 PM

Electrical tuning of mid-infrared metamaterials based on semiconductor device structures (Invited Paper) 8455-96

Young Chul Jun, John L. Reno, Eric A. Shaner, Igal Brener, Sandia National Labs. (U.S.)

Active and Tunable Metamaterials

16 August 2012 • 4:25 - 4:50 PM

Nanoepitaxy: Materials and Devices IV (8467)

III-nitride nanowires: from the bottom-up to the top-down (8467-5)

George T. Wang, Qiming Li, Jonathan J. Wierer, Daniel D. Koleske, Jeffrey J. Figiel, Jeremy B. Wright, Ting S. Luk, Igal Brener, Sandia National Labs. (U.S.)

Nanowires I

15 August 2012 • 9:30 - 9:55 AM

Keynote Presentation: Selected topics in compound semiconductor research at Sandia National Laboratories (8467-6)

Robert M. Biefeld, Sandia National Labs. (U.S.)

Low-Dimensional Materials

15 August 2012 • 10:30 - 11:05 AM

Nanoscale effects on heterojunction electron gases in core/shell nanowires (8467-19)

Francois Leonard, Sandia National Labs., California (U.S.)

Nanowires II

16 August 2012 • 8:15 - 8:40 AM

Growth structure and work function of monolayer and bilayer graphene on Pd(111) (8467-25)

Suneel Kodambaka, Yuya Murata, Hoi Sing Mok, Univ. of California, Los Angeles (U.S.); Shu Nie, Sandia National Labs., California (U.S.); Abbas Ebnonnasir, Colorado School of Mines (U.S.); Norman C. Bartelt, Kevin F. McCarty, Sandia National Labs., California (U.S.); Cristian V. Ciobanu, Colorado School of Mines (U.S.)

Low-Dimensional Materials II

16 August 2012 • 11:30 - 11:55 AM

In-situ TEM observations of electrochemical reactions of individual nanowire or nanoparticle electrodes in lithium ion batteries (8467-28)

Jianyu Huang, Sandia National Labs. (U.S.)

Nano Characterization

16 August 2012 • 2:05 - 2:30 PM

Optical Engineering + Applications

Tribute to William Wolfe (8483)

Feasibility design of a night-driving system for luxury automobiles as metaphor (8483-8)

Michael R. Descour, Sandia National Labs. (U.S.)

Session 3

15 August 2012 • 1:30 - 2:00 PM

Presentations and Posters

NanoScience + Engineering

Program Track: Nanoscience

Metamaterials: Fundamentals and Applications V (8455)

3D plasmonic and metamaterial structures (8455-35)

David B. Burckel, Sandia National Labs. (U.S.)

Making Metamaterials

14 August 2012 • 9:15 - 9:30 AM

Spintronics V (8461)

Posters-Wednesday 15 August • 5:30 PM - 7:30 PM

Modification of band gap and spin-orbit coupling in type-II GaAsSb/InGaAs heterostructures through uniaxial strain modulation (8461-64)

Matthew D. Crawford, Wei Pan, Jeffrey G. Cederberg, Sandia National Labs. (U.S.)

Carbon Nanotubes, Graphene, and Associated Devices V (8462)

Interferometrically defined 3D pyrolyzed-carbon sensors (8462-25)

David B. Burckel, Sandia National Labs. (U.S.)

Thin Film Transistors, Sensors, and Related Applications

15 August 2012 • 11:30 - 11:50 AM

Optical Engineering + Applications

Program Track: Optical Design and Systems Engineering

Optical System Alignment, Tolerancing, and Verification VI (8491)

Optical design and performance testing of an athermal SWIR gas correlation imager 8491-9

Anthony A. Tanbakuchi, Mark W. Smith, Sandia National Labs (U.S.); Jeff A. Mercier, Sandia National Labs. (U.S.); Steven R. Vigil, Sandia National Labs (U.S.); Todd J. Embree, Sandia National Labs. (U.S.); Aaron M. Ison, Sandia National Labs (U.S.)

Verification and Optomechanics 12 August 2012 • 1:50 - 2:10 PM

Program Track: Advanced Metrology

Interferometry XVI: Techniques and Analysis (8493)

Digital holography reconstruction algorithms to estimate the morphology and depth of nonspherical absorbing particles 8493-2

Daniel R. Guildenbecher, Sandia National Labs. (U.S.); Jian Gao, Purdue Univ. (U.S.); Phillip L. Reu, Sandia National Labs. (U.S.); Jun Chen, Purdue Univ. (U.S.)

On the Fringe

13 August 2012 • 9:00 - 9:20 AM

Program Track: Image and Signal Processing

Applications of Digital Image Processing XXXV (8499)

Super-resolution pre-processing of data from undersampled imaging systems for phase diversity 8499-2

Eric A. Shields, Sandia National Laboratories (U.S.)

Image Signal Processing

13 August 2012 • 8:20 - 8:40 AM

Program Track: X-Ray, Gamma-Ray, and Particle Technologies

Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XIV (8507)

High-fidelity molecular dynamics simulations of dislocations in CZT crystals 8507-19

Xiaowang Zhou, Donald K. Ward, Bryan M. Wong, F. Patrick Doty, Sandia National Labs., California (U.S.)

CZT II

13 August 2012 • 5:10 - 5:30 PM

Penetrating Radiation Systems and Applications XIII (8509)

Structural stability of high-Z nanoparticle scintillators 8509-16

Sarah Hoppe, Khalid M. Hattar, Timothy J. Boyle, Janelle Villone, Pin Yang, F. Patrick Doty, Bernadette A. Hernandez-Sanchez, Sandia National Labs. (U.S.)

Materials

15 August 2012 • 4:00 - 4:20 PM

Size effects on high-z based nanoscintillators 8509-17

Bernadette A. Hernandez-Sanchez, Timothy J. Boyle, Janelle Villone, Pin Yang, Mark Kinnan, F. Patrick Doty, Khalid M. Hattar, Sandia National Labs. (U.S.)

Materials

15 August 2012 • 4:20 - 4:40 PM