

## PUBLICATIONS

- Adrian, F. J., "Semiempirical Structural Model of the Electric Field Gradients at Oxygen Nuclei in  $\text{YBa}_2\text{Cu}_3\text{O}_7$ ," *Physica C* **171**, 505–512 (1990).
- , "Theoretical Aspects of Chemically Induced Magnetic Polarization," *Res. Chem. Intermed.* **16**, 99–125 (1991).
- Adrian, F. J., Kim, B. F., Moorjani, K., and Bohandy, J., "Identification of Multiphase and Weak-Link Structures in  $(\text{La}_{0.94}\text{Sr}_{0.06})_2\text{Cu}_4$  Single Crystal by Magnetically Modulated Resistance," *Phys. Rev. B* **43**(13), 10,328–10,334 (1991).
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- , "A Multidimensional Approach to Application Development," in *Proc. Computer Applications and Design Abstracts, ETCEB*, ASME, pp. 87–90 (1992).
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## PRESENTATIONS

- Adrian, F. J., "Theoretical Aspects of Chemically Induced Magnetic Polarization," The Oji Conf. on Spin Chemistry, Tomakemai, Hokkaido, Japan (15–18 Jul 1991).
- Adrian, F. J., Bohandy, J., Kim, B. F., and Moorjani, K., "Application of Magnetically Modulated Resistance Methods to the Characterization of Single Crystals of High- $T_c$  Superconductors," International Conf. Mat. & Mech. of Superconductivity ( $M^2S$ -HTSC III), Kanazawa, Japan (22–26 Jul 1991).
- , "Application of Magnetically Modulated Resistance Methods to the Characterization of Single Crystals of High- $T_c$  Superconductors," Gordon Res. Conf. on Superconductivity, Oxnard, Calif. (5–10 Jan 1992).
- Apel, J. R., and Lin, R.-Q., "Two-Dimensional Soliton Wave-Interactions in Shallow Water," Fall AGU Meeting, San Francisco, Calif. (9–13 Dec 1991).
- Carkhuff, B. G., and Kinnison, J. D., "A RISC-Based Single Event Upset Test System Using FORTH," 8th Single Event Effects Symp., Los Angeles, Calif. (8 Apr 1992).
- Cervero, F. (JHMI), Meyer, R. A. (APL), and Campbell, J. N. (JHMI), "Prickle and Pain in Normal and Hyperalgesic Skin: Evidence that Low Threshold Mechanoreceptors are Responsible for the Pain of Secondary Hyperalgesia," Society for Neuroscience 1991 Annual Meeting, New Orleans, La. (10–15 Nov 1991).
- Chang, G. Y., Givens, R. B., Spicer, J. W. M., and Murphy, J. C., "Study of Electron Beam Specimen Interactions Using Optical Beam Deflection Technique," Annual Meeting of Center for Nondestructive Evaluation, JHU, Baltimore, Md. (16 Apr 1991).
- Chao, K., and Maurer, R. H., "A GaAs Based Multi Chip Module for Space Application—A Product Assurance Perspective," Monolithic Microwave Integrated Circuit Space and Ground Application Symp., JPL, Pasadena, Calif. (28–29 Apr 1992).
- Chase, C. J. (APL), and Ramadge, P. (Princeton Univ.), "Using Markov Maps to Analyze a Class of Hybrid Systems," 1992 Conf. Information and Sciences Systems, Princeton, N.J. (18–20 Mar 1992).
- Darling, J. P. (APL), and Mayergoyz, I. D. (Univ. Maryland), "Data Parallel Algorithms for the Numerical Modeling of Semiconductor Devices," Data Parallel Research Initiative (DPRI) Symp., Boston, Mass. (6–8 Apr 1992).
- Fainchtein, R., "Effects of Low Dimensionality in the Electrical Conductivity of Organic Superconductors," 13th Winter Meeting on Low Temperature Physics, Vista Hermosa Morelos, Mexico (19–22 Jan 1992).
- Fainchtein, R. (APL), and D'Arcangelis, S., and Cowan, D. O. (JHU), "Direct Observation of the Structure and Charge Density Wave in the  $T_c = 10.5K$  Organic Superconductor (BEDT-TTF) $_2$ Cu(NCS) $_2$  with Scanning Tunnel Microscopy and Spectroscopy," STM '91 Meeting, Interlaken, Switzerland (12–16 Aug 1991).
- Fainchtein, R., and Zariello, P. R., "A Computer Controlled Technique for Electrochemical STM Tip Fabrication," STM '91 Meeting, Interlaken, Switzerland (12–16 Aug 1991).
- Fraeman, M. E., Hayes, J. R., Lohr, D. A., Ballard, B. W., Williams, R. L., and Henshaw, R. M., "Experience with Custom Processors in Space Flight Applications," 3rd NASA Symp. VLSI Design, Moscow, Idaho (30–31 Oct 1991).
- Holland, R. L., and MacMullan, S. J., "Using Satellites to Communicate with Cruise Missiles in Flight," AIAA Space Programs and Technology Conf. and Exhibit, Huntsville, Ala. (25 Mar 1992).
- Huebschman, R. K., "Midcourse Space Experiment Spacecraft," Workshop on Cryogenic Satellite Design, NRL, Washington, D.C. (21 Oct 1991).
- Hutton, L. V., "The Matching Law and Cognitive Illusions," Foundational Methods for Behavioral & Computational Neuroscience, Georgetown Univ., Washington, D.C. (15 May 1991).
- Kinnison, J. D., Maurer, R. H., Carkhuff, B. G., and McKerracher, P. L., "A Summary of Recent Latchup and VLSI SEU Testing," 8th Annual Single Event Effects Symp., Los Angeles, Calif. (8 Apr 1992).
- Kues, H. A. (APL), and Monahan, J. C. (FDA), "Ocular Effects of Low-Level Pulsed Microwave Exposure," FDA Center for Devices and Radiological Health Seminar, Rockville, Md. (1 Aug 1991).
- Lin, R.-Q., and Apel, J. R., "A Study of the Astronomical Theory of Ice Ages in a Two-Dimensional Nonlinear Climate Model," 5th Climate Variations Conf., Denver, Colo. (14–19 Oct 1991).
- , "Seamount Trapped Waves in Northwest Pacific Ocean," Fall AGU Meeting, San Francisco, Calif. (9–13 Dec 1991).
- Lopez, R. E., "Magnetospheric Substorms," Goddard Space Flight Center Seminar, Greenbelt, Md. (4 Feb 1992).
- , "Report of Working Group I on Substorm Onset and Expansion," U.S.-Finland Auroral Workshop, Terahovi, Finland (19–21 Mar 1992).
- Moorjani, K., Adrian, F. J., Bohandy, J., and Kim, B. F., "Disorder-Induced Effects in Cuprate Oxide Superconductors," Int. Workshop on High Temperature Superconductors, Rome, Italy (15–19 Apr 1991).
- Nhan, E., Chao, K., Maurer, R. H., Barger, C. B., and Sinsky, J., "GaAs Power MESFETS: Derating and Power Slump

- Evaluation," 1991 GaAs Reliability Workshop, Monterey, Calif. (20 Oct 1991).
- Pryor, L. L., "The Transit System: A Status Report," AIAA Space Programs and Technologies Conf., Huntsville, Ala. (24-27 Mar 1992).
- Rouseff, D., "Reconstruction of Oceanic Microstructure by Tomography," Seminar at the University of Delaware Graduate College of Marine Studies, Newark, Del. (11 Oct 1991).
- Spicer, J. W. M., "Time-Resolved Infrared Radiometry for Nondestructive Characterization of Structured Materials," Gordon Research Conf. on Nondestructive Evaluation, Oxnard, Calif. (20-24 Jan 1992).
- Spicer, J. W. M., Aamodt, L. C., and Murphy, J. C., "Time-Resolved Infrared Radiometry for Characterization of Single and Multilayer Coatings," ASNT Spring Conf. 1st Annual Research Symp., Orlando, Fla. (30 Mar-3 Apr 1992).
- Spicer, J. W. M., Kerns, W. D., Aamodt, L. C., and Murphy, J. C., "Time-Resolved Infrared Radiometry (TRIR) for Characterization of Impact Damage in Composite Materials," Review of Progress in Quantitative NDE, Bowdoin, Me. (29 Jul-2 Aug 1991).
- Suter, J. J. (APL), and Poret, J. C., and Rosen, M. (JHU), "Fiber Optic Ionizing Radiation Detector," IEEE Nuclear Science Symp., Los Angeles, Calif. (28 May 1991).
- Thompson, M. W., and Friedman, M. A., "Issues Associated with Long Duration High Enthalpy Scramjet Combustor Testing," AIAA 3rd Int. Aerospace Planes Conf., Orlando, Fla. (3-5 Dec 1991).
- Treede, R.-D. (JHMI), Meyer, R. A. (APL), and Campbell, J. N. (JHMI), "A-Fiber Nociceptors with a Fast Response to Heat Are Absent in Monkey Glabrous Skin," Society for Neuroscience Annual Meeting, New Orleans, La. (10-15 Nov 1991).
- Weaver, S. J. (Computer Science Corp.), and Sigillito, V. G. (APL), "Memory Capacity of a Backpropagation BAM," Artificial Neural Networks in Engineering Meeting, St. Louis, Mo. (10-12 Nov 1991).
- Wickenden, D. K., Kistenmacher, T. J., Bryden, W. A., and Morgan, J. S. (APL), and Wickenden, A. E. (JHU), "The Effect of Self-Nucleation Layers on the MOCVD Growth of Gallium Nitride on Sapphire," Materials Research Society Spring Meeting, Anaheim, Calif. (29 Apr-2 May 1991).
- Wickenden, D. K. (APL), Wickenden, A. E. (JHU), and Kistenmacher, T. J., Bryden, W. A., and Miragliotta, J. (APL), "The Effect of Self-Nucleation Layers and Nitrogen Carrier Gas on the MOCVD Growth of Gallium Nitride on (0001) Sapphire," Workshop on Wide Bandgap Nitrides, St. Louis, Mo. (13-14 Apr 1992).
- The following papers were presented at the 7th Int. Topical Meeting on Photoacoustic and Photothermal Phenomena, Doorwerth, The Netherlands (26-31 Aug 1991):
- Aamodt, L. C., "Dimensionality Viewed from a Thermal Perspective."
- Chang, G. Y., Givens, R. B., Spicer, J. W. M., and Murphy, J. C., "Electron-Induced Ionization and Thermalization in CdS Using Optical Beam Deflection Imaging."
- Spicer, J. W. M., Aamodt, L. C., Kerns, W. D., and Murphy, J. C., "Competition Between Normal and Transverse Heat Flow in Time-Resolved Infrared Radiometry (TRIR)."
- The following papers were presented at the Materials Research Society Fall Meeting, Boston, Mass. (2-6 Dec 1991):
- Cowan, D. O., D'Arcangelis, S., Herr, D., Mays, M., Yang, S., Yep, G., and Poehler, T. O. (JHU Chemistry Dept.), and Fainchtein, R., Adrian, F., Kistenmacher, T., Bohandy, J., and Kim, B. (APL), "High Dimensional Organic Metals and Organic Superconductors."
- Fainchtein, R. (APL), and D'Arcangelis, S. T., Yang, S. S., and Cowan, D. O. (JHU), "Study of the Solid State Properties of an Organic Superconductor."
- Farrell, R. A., "Hierarchical Structure and Light Scattering in the Cornea."
- The following papers were presented at the Int. Conf. on Substorms, Kiruna, Sweden (23-27 Mar 1992):
- Lopez, R. E. (APL & Applied Res. Corp.), "On the Relative Importance of Magnetospheric and Ionospheric Processes During Substorm Onset and Expansion: A Case Study."
- Traver, D. P., Mitchell, D. G., and Williams, D. J., "ISEE-1 Energetic Particle Observations in the Plasma Sheet During Substorm Recovery Phase and Quiet Time: A Statistical Study."
- Williams, D. J., "Planetary Magnetospheric Substorms."

## COLLOQUIA

- 6 Mar 1992—"The Cost and Benefits of Smog Control," A. J. Krupnick, Resources for the Future.
- 13 Mar—"The Sound of Bubbles," A. Prosperetti, Johns Hopkins University.
- 20 Mar—"Health and Environmental Crises in the Former Soviet Union," M. Feshbach, Georgetown University.
- 27 Mar—"Testing of Einstein in Space: A Marriage of Physics and Technology," C. W. Francis Everitt, Stanford University.
- 3 Apr—"The Formation of the Solar System," G. W. Wetherill, Carnegie Institution of Washington.
- 10 Apr—"35 Years of Space Science at APL," J. Dassoulas, G. C. Weiffenbach, W. H. Guier, A. Kossiakoff, C. O. Bostrom, V. L. Pisacane, and S. M. Krimigis, APL.
- 17 Apr—"Information Processing in the Auditory System," E. D. Young, JHU.
- 24 Apr—"Planning for and Surviving the Patent Wars of the 1990s," S. L. Misrock, Pennie and Edmonds.
- 1 May—"Are Human Activities Affecting the Climate?," S. F. Singer, Univ. Virginia.
- 8 May—"Venus Vulcanism: Recent Results from Magellan," J. W. Head III, Brown University.
- 15 May—"Technology and Society in the 21st Century," S. Muller, Twenty-First Century Foundation.
- 29 May—"Space Research in the Former Soviet Union," A. A. Galeev, Institute for Space Research (Russia).