PUBLICATIONS

Aamodt, L. C. A., Spicer, J. W. M., and Murphy, J. C., "The Effect of Transverse Heat-flow and the Use of Characteristic Times in Studying Multilayered Coatings in the Time-Domain," in *Proc. Photoacoustic and Photothermal Phenomena II, Springer Series in Optical Sciences,* Springer-Verlag, 59–63 (1989).

Adrian, F. J., "Crystal Field Model Interpretation of Magnetic Resonance Data in High-T_c Superconductors: Location of Charge-Carrying Holes," in *Proc. High-T_c Superconductors: Magnetic Interactions Progress in High Temperature Superconductors* **17**, Bennett, L. H., Flom, Y., and Vezzal, G. C., eds., Singapore, pp. 106–115 (1989).

Adrian, F. J. (APL), Akiyama, K. (Queens' Univ., Canada), Ingold, K. U. (Natl. Res. Council of Canada), and Wan, J. K. S. (Queen's Univ. Canada), "The Effects of Hyperfine Interaction and Radical Concentration on the Relative Effects of ST_o and ST_- Mixing in CIOEP," *Chem. Phys. Lett.* **155**(3), 333–337 (1989).

Agostinelli, E. (Italian Res. Inst.), and Bohandy, J., Green, W. J., Bargeron, C. B., Phillips, T. E., Kim, B. F., Adrian, F. J., and Moorjani, K. (APL), "Stabilization of the 108K Superconducting Phase in the $Bi_{0.7}Pb_{0.3}SrCaCu_{1.8}O_y$ System," *J. Supercond.* **2**(3), 361–367 (1989).

Anderson, B. J. (APL), Engebretson, M. J., and Rounds, S. P. (Augsburg College), and Zanetti, L. J., and Potemra, T. A. (APL), "A Statistical Study of Pc 3–5 Pulsations Observed by the AMPTE/CCE Magnetic Fields Experiment 1. Occurrence Distributions," *J. Geophys. Res.* **95**(A7), 10,495–10,523 (1990).

Baranoski, E. J. (APL), and Casasent, D. P. (Carnegie Mellon Univ.), "High Accuracy Optical Processors: A New Performance Comparison," *Appl. Opt.* **28**(24), 5351–5357 (1989).

Baranoski, E. J. (APL), and Casasent, D. P. (Carnegie Mellon Univ.), "Optical Householder Implementation for Adaptive Phased Array Radar Processing," in *Proc. SPIE Advances in Optical Information Processing IV,* Orlando, Fla. (Apr 1990).

Bargeron, C. B., and Benson, R. C., "High-Temperature Oxidation of Hafnium Carbide," in *Proc. 13th Conf. Metal Matrix, Carbon, and Ceramic Matrix Composites,* NASA Conf. Pub. 3054, Hampton, Va., pp. 69–81 (1990).

Bargeron, C. B., Benson, R. C., and Jette, A. N., "Diffusion of Oxygen in Oxidizing Hafnium Carbide Films at High Temperatures," in *Proc. 13th Conf. Metal Matrix, Carbon, and Ceramic Matrix Composites,* NASA Conf. Pub. 3054, Hampton, Va., pp. 83–93 (1990).

Bennett, L. H., Swartzendruber, L. J., and Kaiser, D. (NIST), and Bohandy, J., Kim, B. F., Adrian, F. J., and Moorjani, K. (APL), "SQUID and Magnetically Modulated Microwave Absorption Observations on the Superconducting Transition in Single Crystals of $YBa_2Cu_3O_x$," *J. Appl. Phys.* **67**(9), 5044–5046 (1990).

Benson, R. C., Phillips, T. E., and de Haas, N., "Volatile Species from Conductive Die Attach Adhesives," *IEEE Trans. Compon., Hybrids, Manuf. Technol.* **12**, 571–577 (Dec 1989).

Benson, R. C., Phillips, T. E., and de Haas, N. (APL), and Bonneau, M. (Dexter Corp.), "Investigations of a Model Die Attach Adhesive," in *Proc. 4th Int. SAMPE Electronics Conf.,* Albuquerque, pp. 267–281 (1990).

Beyar, R., Shapiro, E. P., Graves, W. L., Rogers, W. J. (JHMI), Guier, W. H. (APL), and Carey, G. A., Soulen, R. L., Zerhouni, E. A., Weisfeldt, M. L., and Weiss, J. L. (JHMI), "Quantification and Validation of Left Ventricular Wall Thickening by a Three-Dimensional Volume Element Magnetic Resonance Imaging Approach," *Circulation* **81**, 297–307 (1990).

Blum, B. I., "Towards a Powerless Development Environment," in *Proc. IEEE Tools for AI,* Fairfax, Va., pp. 495–498 (1989).

Blum, B. I., "Volume Distance on Productivity," *J. Syst. Software* **10**, 217–226 (1989).

Blum, B. I., "Improving Software Maintenance by Learning from the Past: A Case Study," in *Proc. IEEE* **77**(4), 596–606 (1989).

Blum, B. I., "Formalism and Prototyping in the Software Process," *Information and Decision Technologies* **15**, 327–341 (1989).

Blum, B. I., "Design Methodology," Chap. 17, in *Implementing Health Care Information Systems,* Orthner, H. F., and Blum, B. I., eds., Springer-Verlag, New York, pp. 272–295 (1989).

Blum, B. I., "Development History," Chap. 3, in *A Clinical Information System for Oncology,* Enterline, J. P., Lenhard, R. E., and Blum, B. I., eds., Springer-Verlag, New York, pp. 39–71 (1989).

Blum, B. I., "Protocol-Directed Care," Chap. 5, in *A Clinical Information System for Oncology,* Enterline, J. P., Lenhard, R. E., and Blum, B. I., eds., Springer-Verlag, New York, pp. 109–138 (1989).

Blum, B. I., "Medical Informatics—Phase II," Chap. 2, in *Implementing Health Care Information Systems,* Orthner, H. F., and Blum, B. I., eds., Springer-Verlag, New York, pp. 22–29 (1989).

Blum, B. I., "The TEDIUM Development Environment," Chap. 19, in *Implementing Health Care Information Systems,* Orthner, H. F., and Blum, B. I., eds., Springer-Verlag, New York, pp. 313–352 (1989).

Blum, B. I., *History of Medical Informatics,* Addison–Wesley, Reading, Mass. (1990).

Blum, B. I., *TEDIUM and the Software Process,* MIT Press, Cambridge, Mass. (1990).

Blum, B. I., "Medical Informatics in the United States, 1950–1975," Chap. 1, in *History of Medical Informatics,* Blum, B. I., and Duncan, K., eds., ACM Press, Addison–Wesley, pp. 17–30 (1990).

Blum, B. I., "Software Development: Human Information Processing Concerns," in *Concise Encyclopedia of Information Processing in Systems and Organization,* Sage, A. P., ed., Pergamon Press, Oxford, UK, pp. 429–439 (1990).

Blum, B. I., "Human Information Processing in Software Development," in *Human Factors in Information Systems Analysis and Design,* Finkelstein, A., Tauber, M. J., and Traunmuller, R., eds., North Holland, Amsterdam, pp. 37–52 (1990).

Blum, B. I., "Medical Informatics," in *Encyclopedia of Computer Science and Technology,* Kent & Williams, eds., Marcel Dekker, New York, Vol. 22, Supplement 7, pp. 205–224 (1990).

Blum, B. I., "Knowledge-Based Software Engineering: A Different Approach," in *Proc. SEKE '90, Software Engineering and Knowledge Engineering, 2nd Int. Conf.,* Skokie, Ill., pp. 1–6 (1990).

Blum, B. I., and Orthner, H. F., "The MUMPS Programming Language," Chap. 23, in *Implementing Health Care Information Systems,* Orthner, H. F., and Blum, B. I., eds., Springer-Verlag, New York, pp. 396–420 (1989).

Blum, B. I., and Semmel, R. D., "The INA: A Simple Query Language with Only Attribute Names (Video)," in *Proc. SIGMOND,* p. 390 (1990).

Bohandy, J., Phillips, T. E., Adrian, F. J., Moorjani, K., and Kim, B. F., "Detection of Superconducting Transitions by Magnetically Modulated Electrical Resistance," *Mod. Phys. Lett. B* **3**(12), 933–937 (1989).

Boone, J. M. (T. Jefferson Univ.), Sigillito, V. G. (APL), and Shaber, G. S. (T. Jefferson Univ.), "Neural Networks in Radiology: An Introduction and Evaluation in a Signal Detection Task," *Med. Phys.* **17**(2), 234–241 (1990).

Buscher, D. J., and Sunday, D. M., "The Command Support At-Sea Experiment," *Nav. Eng. J.* **102**(3), 25–26 (1990).

Carbary, J. F., and Meng, C.-I., "Limb Profiles from Low Earth Orbit," in *Proc. SPIE Ultraviolet Technology III,* Huffman, R. E., ed., Vol. 1158, pp. 51–58 (Aug 1989).

Charles, H. K., Jr., and Wagner, G. D., "Applied Physics Laboratory: 30 Years of Development and Innovation," *Inside ISHM* **16**(6), 11 (1989).

Cheng, A. F., "Current Sheet Interaction and Particle Acceleration in the Jovian Magnetosphere," *J. Geophys. Res.* **95**(A4), 4271–4276 (1990).

Cheng, A. F., and Krimigis, S. M., "Energetic Neutral Particle Imaging of Saturn's Magnetosphere," in *Outstanding Problems in Solar Systems Plasma Physics,* pp. 253–260 (1989).

Clatterbaugh, G. V., and Charles, H. K., Jr., "The Effect of High Temperature Intermetallic Growth on Ball Shear Induced Cratering," *IEEE Trans. Compon., Hybrids, Manuf. Technol.* **CHMT-13**(4), 167–175 (1990).

Colbert, E. J. M. (APL), and Teti, N. M. (Swales and Associates), "Preliminary Spacecraft Thermal Design on an MS-DOS Microcomputer," in *SAE Tech. Paper Series,* No. 901373, pp. 1–5 (1990).

Darling, J. P. (APL), and Mayergoyz, I. D. (Univ. Maryland), "Parallel Algorithm for the Solution of Nonlinear Poisson Equation of Semiconductor Device Theory and Its Implementation on the MPP," *J. Parallel and*

Distributed Computing **8**(2), 161–168 (Feb 1990).

Dettmer, E. S. (Bendix), Romenesko, B. M., Charles, H. K., Jr., and Carkhuff, B. G. (APL), and Merrill, D. J. (Cornell Univ.), "Steady State Conductivity Measurements on AlN and SiC Substrate Materials," *IEEE Trans. Compon., Hybrids, Manuf. Technol.* **CHMT-12**(4), 543–547 (1989).

Dobbins, R. W. (JHMI), and Eberhart, R. C. (APL), "Casenet: Computer Aided Neural Network Specification Tool," in *Proc. Int. Joint Conf. on Neural Networks II,* Washington, D.C. pp. 122–125 (Jan 1990).

Dobson, E. B., and Porter, D. L., "Sea Surface Height, Wind Speed and Significant Wavenumber Variability in the Western Pacific," *EOS Trans.* **71**(28), 884 (1990).

Dockery, G. D., "A Method for Modeling Sea Surface Clutter in Complicated Propagation Environments," *IEE Proceedings-F: Radar and Signal Processing* **137**(2), Part F, 73–79 (Apr 1990).

Duncan, D. D., Bargeron, C. B., Borchardt, S. E., Deter, O. J., Gearhart, S. A., and Mark, F. F. (APL), and Friedman, M. H. (Ohio State Univ.), "The Effect of Compliance on Wall Shear in Casts of a Human Aortic Bifurcation," *J. Biomech. Eng.* **112**, 183–188 (1990).

Eberhart, R. C., "Standardization of Neural Network Terminology," *IEEE Trans. on Neural Networks* **1**, 242–243 (1990).

Eberhart, R. C. (APL), and Dobbins, R. W. (JHH), "Implementing a Neural Network in C: Part I," *Micro Cornucopia* **51**, 16–25 (1990).

Eberhart, R. C. (APL), and Dobbins, R. W. (JHH), "Implementing a Neural Network in C: Part II," *Micro Cornucopia* **52**, 9–16 (1990).

Eberhart, R. C. (APL), and Dobbins, R. W. (JHH), "Neural Network Performance Metrics for Biomedical Applications," in *Proc. 3rd Annual IEEE Symp. on Computer-Based Medical Systems*, Chapel Hill, N.C., pp. 282–289 (Jun 1990).

Eberhart, R. C. (APL), and Dobbins, R. W., and Webber, W. R. S. (JHH), "Epileptiform Spike/Seizure Detection Using Low-Cost Neural Network Tools," *J. Clin. Neurophysiol.* **6**, 340 (1989).

Eberhart, R. C. (APL), and Dobbins, R. W., and Webber, W. R. S. (JHH), "EEG Waveform Analysis Using Casenet," in *Proc. IEEE Engineering in Medicine and Biology Society Annual Conf.,* Seattle, Wash., Vol. 6, pp. 2046–2047 (Nov 1989).

Ehrlich, L. W., "A Local Relaxation Scheme (Ad-Hoc SOR) Applied to Nine Point and Block Difference Equations," Chap. 5, in *Iterative Methods for Large Linear Systems,* Kincaid, D. R., and Hayes, L. J., eds., Academic Press, New York, pp. 81–90 (1990).

Enterline, J. P. (JHH), Lenhard, R. E. (JHMI), and Blum, B. I. (APL), "The Oncology Clinical Information System," Chap. 1, in *A Clinical Information System for Oncology,* Enterline, J. P., Lenhard, R. E., and Blum, B. I., eds., Springer-Verlag, New York, pp. 1–21 (1989).

Fainchtein, R. (APL), Dayan, D. (NRCN), and Bryden, W. A., Murphy, J. C., and Poehler,

T. O. (APL), "Scanning Tunneling Microscopy for Morphological Characterization of InN Thin Films," in *Proc. 16th Annual Review of Progress in Quantitative Nondestructive Evaluation,* Thompson, D. O., and Chimenti, D. E., eds., Plenum Press, New York, pp. 1093–1099 (1990).

Fainchtein, R. (APL), and Lannin, J. S. (Penn State Univ.), "Inelastic Neutron Scattering of Amorphous $Ni_{0.95} Tb_{0.05}$," *Phys. Rev. B* **39**(9), 5665–5668 (1989).

Farrell, R. A., "Hierarchical Structure and Function of the Cornea," *Biostructures as Composite Materials,* in *Proc. ARO Workshop,* Case Western Reserve University, Cleveland, pp. 20–40 (23–25 Oct 1989).

Farrell, R. A., Bargeron, C. B., and McCally, R. L. (APL), and Green, W. R. (JHMI), "Corneal Effects Produced by IR Laser Radiation," in *Proc. Laser Safety, Eyesafe Laser Systems, and Laser Eye Protection; SPIE Proc. Series,* Vol. 1207, pp. 59–70 (1990).

Flower, R. W., and Klein, G. J., "Pulsatile Flow in the Choroidal Circulation," *Eye* **4**, 310–318 (1990).

Freund, D. E., and Farrell, R. A., "A Variational Principle for the Scattered Wave," *J. Acoust. Soc. Am.* **87**, 1847–1860 (1990).

Fristrom, R. M., "Flame Structure Studies: Past, Present and Future," Chap. 5, in *Pure and Applied Chemistry* **62**, Nauka (publ., Siberian Branch), Vol. 62, pp. 839–849 (1990).

Fristrom, R. M., "Flame Structure Studies: Past, Present and Future," Introduction, in *Pure and Applied Chemistry,* Great Britain, Vol. 63, No. 5, pp. 839–849 (1990).

Gilreath, H. G., and Sullins, G. A., "Investigation of the Mixing of Parallel Supersonic Streams," in *Proc. 9th Int. Symp. on Air Breathing Engines,* Billig, F. S., ed., Vol. 1, pp. 585–595 (1989).

Glenn, S. M. (Harvard Univ.), Porter, D. L. (APL), and Robinson, A. R. (Harvard Univ.), "Estimation of Mesoscale Dynamic Topography in the Gulf Stream Region Using the Geosat Altimeter and a Synthetic Geoid," *EOS Trans.* **71**(2), 141 (Jan 1990).

Grant, C. J., "AEGIS AAW Correlator/Tracker (AACT) Experiment," *Nav. Eng. J.* **102**(3), 37–42 (May 1990).

Hom, R. L., Rouse, R. E., and Bateman, K. L., "An Automatic Phase Alignment System for Transmitters," in *Proc. IEEE 1990 Int. Radar Conf.,* New York, pp. 141–146 (1990).

Horton, C. W. (NAVO), Porter, D. L. (APL), DeWitt, P. W. (FNOC), and Rankin, W. E. (NAVO), "Altimeter Observations near the Kuroshio Extension," *EOS Trans.* **71**(2), 140–141 (Jan 1990).

Hunt, J. W., Jr., and Fisher, H. L., "Simulating the Attitude Dynamics of a Multibody Spacecraft," in *Proc. 1990 Summer Computer Simulation Conf.,* San Diego, pp. 451–456 (1990).

Hutton, L. V., and Sigillito, V. G. (APL), and Egeth, H. (JHU), "Experiments on Constructing a Cognitive Map: A Neural Network Model of a Robot That Daydreams," in *Proc. Int. Joint Conf. on Neural Networks,* Washington, D.C., pp. I223–I227

(1990).

Hutton, L. V., Sigillito, V. G., and Johannes, R. S., "An Interaction Between Auxiliary Knowledge and Hidden Nodes on Time to Convergence," *Proc. Symp. on the Computer Applications in Medical Care,* Washington, D.C., pp. 302–306 (1989).

Hutton, L. V., and Sigillito, V. G. (APL), and Sims, J. (JHU), "Some Similarities between Single Cell Recordings of the System Cortex and Neural Networks: Broad Tuning and (Possibly) Task-Modulated Changes in Neuronal Output," in *Proc. Int. Joint Conf. on Neural Networks,* Washington, D.C., pp. I251–I254 (1990).

Iijima, T. (Geophys. Res. Lab., Univ. Tokyo), and Potemra, T. A., and Zanetti, L. J. (APL), "Large-Scale Characteristics of Magnetospheric Equatorial Currents," *J. Geophys. Res.* **95**(A2), 991–999 (Feb 1990).

Keath, E. P., Andrews, G. B., Cheng, A. F., Krimigis, S. M., Mauk, B. H., Mitchell, D. G., and Williams, D. J., "Instrumentation for Energetic Neutral Atom Imaging of Magnetospheres," *Geophys. Monograph* **54**, 165–170 (1989).

Kemelhor, R. E., "Introduction of the DoD CALS in an R&D Environment," in *Proc. Autofact '89 (SME) Conf.,* Dearborn, Mich., pp. 4-1-4-15 (30 Oct–2 Nov 1989).

Kemelhor, R. E., "Use of Standards in a CTM Environment," in *Proc. Society of Manufacturing Engineers Conf.* Reading, pp. 1–10 (14–16 May 1990).

Kim, B. F., Bohandy, J., Adrian, F. J., and Moorjani, K., "Superconducting Magnetometer," *Appl. Phys. Lett.* **56**(20), 2037–2038 (1990).

Kim, B. F., Bohandy, J., Phillips, T. E., Adrian, F. J., and Moorjani, K., "Detection of Weak Link Superconductivity by Magnetically Modulated Electrical Resistance," *Physica C* **161**, 76–82 (1989).

Kistenmacher, T. J., Bryden, W. A., and Moorjani, K., "Random Magnetic Anisotropy in Thin Films of Amorphous $Mn_{48}B_{52}$," *Am. Phys. Soc.* **40**(14), 9895–9899 (Nov 1989).

Kistenmacher, T. J., Bryden, W. A., Morgan, J. S., and Poehler, T. O., "Characterization of rf-sputtered InN Films and AlN/InN Bilayers on (0001) Sapphire by the X-Ray Precession Method," *J. Appl. Phys.* **68**(4), 1541–1544 (1990).

Klein, G. J., Baumgartner, R. H., and Flower, R. W., "An Image Processing Approach to Characterizing Choroidal Blood Flow," *Invest. Ophthalmol. Vis. Sci.* **31**, 629–637 (1990).

Klein, G. J., Flower, R. W., and Baumgartner, R. H., "Extraction of Blood Flow Characteristics from Choroidal Angiography," *SPIE* **1161**, 399–408 (1989).

Kosmin, L. J., "The Electronic Reference Desk: Getting Priorities in Focus," *Library Software Rev.* **8**(6), 342–343 (1989).

Kosmin, L. J., "Resources for Tracking CD-ROM In-House Development Options," *CD-ROM Professional* **3**(3), 56–60 (1990).

Ku, H. C., Taylor, T. D., and Hirsh, R. S., "A Pseudospectral Matrix Element Method for Calculation of Double Diffusive Layers Near Corners," *Comput. Methods Appl.*

Mech. Eng. 75, 141–151 (1989).

Ku, H. C., Taylor, T. D., and Hirsh, R. S., "Pseudospectral Matrix Element Methods for Flow in Complex Geometry," *Comput. Methods Appl. Mech. Eng.* **80**, 381–388 (1990).

LaFrance, P., *Fundamental Concepts in Communication,* Bozik, T., ed., Prentice–Hall, Englewood Cliffs, N.J. (1990).

Lee, S. C., "Using a Translation Invariant Neural Network to Diagnose Heart Arrhythmia," in *Proc. Annu. Int. Conf. IEEE Eng. Med. Biol. Soc.,* 2025–2026 (1989).

Lee, S. C., "Using a Translation Invariant Neural Network to Diagnose Heart Arrhythmia," *Advances in Neural Information Processing Systems* **2**, 240–247 (1990).

Lopez, R. E. (Applied Res. Corp.), and Lui, A. T. Y. (APL), "A Multisatellite Case Study of the Expansion of a Substorm Current Wedge in the Near-Earth Magnetotail," *J. Geophys. Res.* **95**(A6), 8009–8017 (1990).

Lopez, R. E. (Applied Res. Corp.), and Lui, A. T. Y., McEntire, R. W., Potemra, T. A., and Krimigis, S. M. (APL), "A Statistical Study of Magnetic Field Magnitude Changes during Substorms in the Near-Earth Tail," *Adv. Space Res.* **10**, supplement, (S)37–(S)41 (1990).

Lopez, R. E. (Applied Res. Corp.), and McEntire, R. W., and Potemra, T. A. (APL), Baker, D. N. (NASA/GSFC), and Belian, R. D. (Los Alamos National Lab.), "A Possible Case of Radially Antisunward Propagating Substorm Onset in the Near-Earth Magnetotail," *Planet. Space Sci.* **38**(6), 771–784 (1990).

Love, A. E. (APL), and Aburdene, M. F. (Bucknell Univ.), "Simulation of Distributed Algorithms Using OCCAM," *Simulation* **55**(2), 86–95 (1990).

Lui, A. T. Y. (APL), Mankofsky, A., and Chang, C.-L. (Sci. Applications Int. Corp.), and Papadopoulos, K., and Wu, C. S. (Univ. Maryland), "A Current Disruption Mechanism in the Neutral Sheet: A Possible Trigger for Substorm Expansions," *Geophys. Res. Lett.* **17**(6), 745–748 (1990).

Maurer, R. H., Chao, K., Nhan, E., Benson, R. C., and Bargeron, C. B., "Reliability Study of Gallium Arsenide Transistors," in *Proc. IEEE 40th Electronic Components and Technology Conf.,* Las Vegas, pp. 670–676 (1990).

Maurer, R. H., Herbert, G. A., and Kinnison, J. D. (APL), and Meulenberg, A. (COMSAT Labs.) "Gallium Arsenide Solar Cell Radiation Damage Study," *IEEE Trans. Nucl. Sci.* **36**, 2083–2091 (1989).

McCally, R. L., and Farrell, R. A., "Light Scattering from Cornea and Corneal Transparency," Chap. 12, in *Noninvasive Diagnostic Techniques in Ophthalmology,* Masters, B. R., ed., Springer-Verlag, New York, pp. 189–210 (1990).

McCally, R. L., Freund, D. E., and Farrell, R. A., "Small Angle Light Scattering from Human Cornea," *Invest. Ophthalmol. Visual Sci.* **31**(4), 32 (1990).

McCally, R. L., and Moorjani, K., "Magnetic and Hyperfine Interactions in Amorphous Fe–P Alloys," *J. Appl. Phys.* **67**, 5784–5786 (1990).

McEntire, R. W., and Mitchell, D. G., "Instrumentation for Global Magnetospheric Imaging via Energetic Neutral Atoms," in *Instrumentation for Magnetospheric ENA Imaging,* pp. 69–80 (1989).

Meyer, J. H., and Rowland, J. R., "An Instrumentation Sled for Measurement of Near-Ocean Surface Temperature, Humidity and Water Temperature," in *Proc. Marine Technology Society—MTS 90 Science and Technology for a New Oceans Decade,* Vol. II, pp. 489–494 (1990).

Mitchell, D. G. (APL), Engebretson, M. J. (Augsburg College), Williams, D. J. (APL), Cattell, C. A. (Univ. Calif., Berkeley), and Lundin, R. (Swedish Inst. Space Phys.), "Pc 5 Pulsations in the Outer Dawn Magnetosphere Seen by ISEE 1 and 2," *J. Geophys. Res.* **95**(A2), 967–975 (1990).

Mitchell, D. G., and Williams, D. J. (APL), Huang, C. Y., and Frank, L. A. (Univ. Iowa), and Russell, C. T. (Univ. Calif.), "Current Carriers in the Near-Earth Cross-Tail Current Sheet during Substorm Growth Phase," *Geophys. Res. Lett.* **17**(5), 583–586 (1990).

Monaldo, F. M., "Strategies to Assess the Capacity of an On-Board Processor to Produce Ocean Wave Spectra," in *Proc. Int. Geoscience and Remote Sensing Symp.,* pp. 2693–3695 (Jul 1989).

Monaldo, F. M., "The Effect of Sampling Variability on the Estimation of Wavenumber and Direction from SAR Wave Spectra," in *Proc. Int. Geoscience and Remote Sensing Symp.,* pp. 2316–2319 (Jul 1989).

Monaldo, F. M., "Reconsideration of the SAR Modulation Transfer for the Imaging of Ocean Surface Waves," in *Proc. Int. Geoscience and Remote Sensing Symp.,* IEEE 90-CH2825, Vol. 4, pp. 409–412 (1990).

Monaldo, F. M., "Corrected Spectra of Wind Speed and Significant Wave Height," *J. Geophys. Res.* **95**, 3399–3402 (1990).

Monaldo, F. M., "Path Length Variations Caused by Atmospheric Water Vapor and Their Effects on the Measurement of Mesoscale Ocean Circulation by a Radar Altimeter," *J. Geophys. Res.* **95**, 2923–2932 (1990).

Monaldo, F. M., and Dobson, E. B., "On Using Wave Height and Radar Cross Section To Improve Radar Altimeter Estimates of Wind Speed," *J. Geophys. Res.* **94**, 12,699–12,701 (1989).

Moorjani, K., Bohandy, J., Kim, B. F., and Adrian, F. J., "On Distinguishing Intrinsic and Weak-Link Responses in Magnetically-Modulated Dissipation in High T_c Superconductors," *Solid State Commun.* **74**(6), 497–499 (1990).

Moorjani, K., Kim, B. F., Bohandy, J., and Adrian, F. J., "Modulation Techniques for Studying Superconductors," in *Proc. Int. Conf. on Superconductivity—ICSC,* World Scientific Press, Singapore, pp. 170–193 (1990).

Murphy, J. C., Maclachlan, J. W., and Aamodt, L. C., "The Role of Thermal Wave Techniques in Materials Characterization," in *International Advances in NDT,* McGonnagle, W. J., ed., Gordon and Breach, New York, Vol. 14, pp. 175–218 (1989).

Nagai, T. (Meteorological Res. Inst., Japan),

Takahashi, K., Potemra, T. A., and McEntire, R. W. (APL), Lopez, R. E. (APL & Applied Res. Corp.), and Klumpar, D. M. (Lockheed Palo Alto Res. Lab.), "The Structure of the Birkeland Current System in the Post-Midnight Plasma Sheet," *Geophys. Res. Lett.* **17**(8), 1057–1060 (1990).

Newell, P. T., and Meng, C.-I., "Intense keV Energy Polar Rain," *J. Geophys. Res.* **95**(A6), 7869–8303 (1990).

Oakes, J. B., "A Small Satellite Bus Designed for Low Earth Orbiting Experiments," in *Proc. 4th Annual AIAA/USU Conf. on Small Satellites,* Utah State Univ., Logan, Utah, Vol. 1 (1990).

Panneton, P. E., and Meyer, J. R., "Results of Deep DOD Life Cycle Tests at High Rates on 12Ah, N_1Cd Cells," in *Proc. 25th Intersociety Energy Conversion Engineering Conf.,* Vol. 6, pp. 100–104 (1990).

Porter, D. L., "Geosat Observations of the Tropical Pacific Cyclone Pair of May 1986," *J. Geophys. Res.* **95**(D4), 3705–3710 (1990).

Potemra, T. A. (APL), Vo., H., Venkatesan, D., and Cogger, L. L. (Univ. Calgary), and Erlandson, R. E., Zanetti, L. J., Bythrow, P. F., and Anderson, B. J., (APL), "Periodic Auroral Forms and Geomagnetic Field Oscillations in the 1400 MLT Region," *J. Geophys. Res.* **95**(A5), 5835–5844 (1990).

Raja, S. N., Meyer, R. A., and Campbell, J. N., "Hyperalgesia and Sensitization of Primary Afferent Fibers," in *Pain Syndromes in Neurology,* Fields, H. C., ed., Butterworths, London, pp. 19–45 (1990).

Raul, R. (APL), and Bernard, P. S., and Buckley, F. T., Jr. (U. Maryland), "An Application of the Vorticity-Vector Potential Method," *Int. J. Numer. Methods Fluids* **10**, 875–888 (1990).

Reilly, J. P., "Clutter Rejection Limitations from Ambiguous-Range Clutter," in *Proc. IEEE Int. Radar Conf.,* Arlington, Va., pp. 195–200 (1990).

Reilly, J. P., and Dockery, G. D., "Influence of Evaporation Ducts on Radar Sea Return," *IEE Proc., Part F* **137**(2), 80–88 (Apr 1990).

Roth, M. W., "Survey of Neural Network Technology for Automatic Target Recognition," *IEEE Trans. on Neural Networks* **1**(1), 28–43 (Mar 1990).

Roth, M. W. (APL), and Andreon, A. G. (JHU), "Book Review of Analog VLSI and Neural Systems by C. A. Mead," *IEEE Trans. on Neural Networks* **1**(1), 149–150 (Mar 1990).

Sadowsky, J., "Applications of Weil Representation Theory to Signal Processing," in *Proc. 23rd Asilomar Conf. on Signals, Systems, and Computers,* Pacific Grove, Calif., pp. 628–632 (1989).

Sarris, E. T. (Univ. Thrace, Greece & APL), Krimigis, S. M. (APL), and Paschalidis, N. (Univ. Thrace, Greece), "Comment on Multispacecraft Observations of Energetic Ions Upsteam and Downstream of the Bow Shock' by Scholer et al.," *Geophys. Res. Lett.* **17**(8), 1165–1168 (1990).

Sergeev, V. A. (U. Leningrad), Aulamo, O. A., Pellinen, R. J., and Vallinkoski, M. K. (Finnish Meteor, Institute), Bosinger, T. (U Oulu, Finland), Cattell, C. A. (U. Calif.-Berkeley), Elphic, R. C. (UCLA), and Williams, D. J.

(APL), "Non-Substorm Transient Injection Events in the Ionosphere and Magnetosphere," *Planet. Space Sci.* **38**(2), 231–239 (1990).

Sibeck, D. G., "A Model for the Transient Magnetospheric Response to Sudden Solar Wind Dynamic Pressure Variations," *J. Geophys. Res.* **95**(A4), 3755–3771 (1990).

Sibeck, D. G. (APL), Lepping, R. P. (GSFC), and Lazarus, A. J., (MiT), "Magnetic Field Line Draping in the Plasma Depletion Layer," *J. Geophys. Res.* **95**(A3), 2433–2440 (1990).

Sorensen, T. E., and England, W. E. (U. Wisconsin-Milwaukee) and Silver, D. M. (APL), "Quantum Field Theoretical Methods in Chemically Bonded Systems," *J. Phys. B: At., Mol. Opt. Phys.* **22**, L539–L545 (1989).

Spall, J. C., "A Stochastic Approximation Algorithm for Large-Dimensional Systems in the Kiefer-Wolfowitz Setting," in *Proc. Am. Stat. Assoc., Stat. Computing Sect.,* pp. 145–149 (1989).

Spall, J. C., and Chin, D. C., "First-Order Data Sensitivity Measure with Applications to a Multivariate Signal-Plus-Noise Problem," *Computational Statistics and Data Analysis* **9**, 297–307 (1990).

Spall, J. C., and Hill, S. D., "Least Informative Bayesian Prior Distribution for Finite Samples Based on Information Theory," in *Proc. IEEE Conf. Decision and Control,* pp. 2567–2569 (1989).

Spall, J. C., and Hill, S. D., "Least-Informative Bayesian Prior Distributions for Finite Samples Based on Information Theory," *IEEE Trans. Autom. Control* **35**(5), 580–583 (1990).

Stark, V. L., "Variability of Ocean Reflectance as Inferred from Coastal Zone Color Scanner Data," in *Proc. Marine Technology Society—MTS 90 Science and Technology for a New Oceans Decade,* Vol. II, pp. 519–523 (1990).

Stetson, D. M., Eberhart, R. C., Dobbins, R. W., Pugh, W. M., and Gino, A., "Structured Specification of a Computer Assisted Medical Diagnostic System," in *Proc. 3rd Annual IEEE Symp. on Computer-Based Medical Systems,* Chapel Hill, N.C., pp. 374–380 (Jun 1990).

Stoyanov, B. J., Farrell, R. A., and Bird, J. F., "Asymptotic Expansions of Integrals of Two Bessel Functions," in *Asymptotic and Computational Analysis,* Wong, R., ed., Marcel Dekker, Inc., New York and Basel, Vol. 124, pp. 723–740 (1990).

Strickland, D. J., Barnes, R. P., and Cox, R. J. (Computational Physics, Inc.), Anderson, D. E., Jr. (NRL), and Meng, C.-I., and Carbary, J. F. (APL), "Analysis of UV Limb Data from Low Earth Orbit," in *Proc. SPIE Ultraviolet Technology III,* Huffman, R. E., ed., Vol. 1158, pp. 59–68 (1989).

Stuart, G. J. (OCN), Blum, B. I. (APL), and Lenhard, R. E., Jr. (JHH), "Clinical Data Management," Chap. 4, in *A Clinical Information System for Oncology,* Enterline, J. P., Lenhard, R. E., and Blum, B. I., eds., Springer-Verlag, New York, pp. 73–108 (1989).

Sunday, D. M., "A Complete Polygonized World Map Database for Realtime Navy Dis-plays," in *Proc. of GEO '89 Symp. on Geographical Information Systems for Command and Control,* Symp. Proc. 6, The Hague, Netherlands, Vol. 1, pp. 451–457 (1990).

Sunday, D. M., "A Very Fast Substring Search Algorithm," *Commun. ACM* **33**(8), 132–142 (1990).

Takahashi, K. (APL), Cheng, C. Z. (Princeton Univ.), McEntire, R. W. (APL), and Kistler, L. M. (Univ. Maryland), "Observation and Theory of Pc 5 Waves with Harmonically Related Transverse and Compressional Components," *J. Geophys. Res.* **95**(A2), 977–989 (Feb 1990).

Takahashi, K., McEntire, R. W., Lui, A. T. Y., and Potemra, T. A., "Ion Flux Oscillations Associated with a Radially Polarized Transverse Pc 5 Magnetic Pulsation," *J. Geophys. Res.* **95**(A4), 3717–3731 (1990).

Thews, E. R., "Timely Prediction of Low-Altitude Radar Performance in Operational Environments Using *in situ* Atmospheric Refractivity Data," *IEE Proc. Part F, Special Issue on Radar Operation in the Ocean Environment* **137**(2), 89–94 (1990).

Thews, E. R., and Dockery, G. D., "Scattering and Propagation Impacts on Shipboard Radar Systems," in *Proc. IEEE 1990 Int. Radar Conf. Record,* New York, pp. 401–408 (1990).

Thomas, M. E., "Infrared- and Millimeter-Wavelength Continuum Absorption in the Atmospheric Windows: Measurements and Models," *Infrared Phys.* **30**(2), 161–174 (1990).

Uy, O. M., and Benson, R. C., "Package Sealing and Passivation Coatings," in *Electronic Materials Handbook, Packaging,* Minges, M. L., ed., Am. Society of Metals, ASM International Materials, Park, Ohio, Vol. 1, p. 237 (1989).

Watson, G. (APL), and Robinson, I. S. (Univ. Southampton), "A Study of Internal Wave Propagation in the Strait of Gibraltar Using Shore-Based Marine Radar Images," *J. Phys. Oceanogr.* **20**(3), 374–395 (1990).

White, M. E., Stevens, J. R., Van Wie, D. M., Mattes, L. A., and Keirsey, J. L., "Investigation of Cowl Vent Slots for Supercritical Stability Enhancement in Dual-Mode Ramjet Inlets," *AIAA J. Propulsion and Power* **6**(3), 225–226 (1990).

Williams, D. J., and Mitchell, D. G. (APL), Huang, C. Y., and Frank, L. A., (Univ. Iowa), and Russell, C. T. (Univ. Calif.), "Particle Acceleration during Substorm Growth and Onset," *Geophys. Res. Lett.* **17**(5), 587–590 (1990).

Winters, K. B. (Univ. Washington), and Rouseff, D. (APL), "A Filtered Backprojection Method for the Tomographic Reconstruction of Fluid Vorticity," *Inverse Problems* **6**, L33–L38 (1990).

Yumoto, K. (Nagoya Univ., Japan), and Takahashi, K. (APL), "Relation between Pi 2 Magnetic Pulsations at L = 1.3–2.1 and Dipolarizations at AMPTE/CCE," in *Proc. National Institute of Polor Res. Symp. on Upper Atmosphere Physics,* Tokyo, Vol. 2, pp. 38–46 (1989).

Yumoto, K. (Nagoya Univ., Japan), Takahashi, K. (APL), Saito, T. (Tohoku Univ., Japan), Menk, F. W., and Fraser, B. J. (Univ. Newcastle, Australia), and Tanaka, Y. (Nagoya Univ., Japan), "Low-Latitude Pi 1-2 Magnetic Pulsations of the August 28, 1986, Substorm Onset," in *Proc. National Institute of Polor Res. Symp. on Upper Atmosphere Physics,* Tokyo, Vol. 2, pp. 25–37 (1989).

Zanetti, L. J., Potemra, T. A., Erlandson, R. E., Bythrow, P. F., and Anderson, B. J. (APL), Murphree, J. S. (Univ. Calgary), and Marklund, G. T. (Royal Inst. Technol., Sweden), "Polar Region Birkeland Current, Convection, and Aurora for Northward Interplanetary Magnetic Field," *J. Geophys. Res.* **95**(A5), 5825–5833 (1990).

Zitzman, L. H. (APL), Falatko, S. M. (Man Tech Services Corp.) and Papach, J. L. (Comptek Res. Corp.) "Computer System Architecture Concepts for Future Combat Systems," *Nav. Eng. J.* **102**(3), 43–62 (1990).

PRESENTATIONS

Bargeron, C. B., Benson, R. C., Jette, A. N., and Newman, R. W. (APL), and Paquette, E. L. (Refractory Composites, Inc.), "Oxidation Kinetics of Hafnium Diboride at High Temperatures," 14th Annual Conf. on Composites, Materials and Structures, Cocoa Beach, Fla. (17–19 Jan 1990).

Bargeron, C. B., Phillips, T. E., Jette, A. N., Newman, R. W., and Benson, R. C. (APL), and Paquette, E. L. (Refractory Composites, Inc.), "High Temperature Oxidation of Hafnium Diboride Films on a Hafnium Diboride Fiber Matrix Filled with Graphite," FIBER-TEX '89, Greenville, S.C. (30 Oct–1 Nov 1989).

Benson, R. C., Bargeron, C. B., Phillips, T. E., and Uy, O. M., "Analysis of Mirror Surface After Laser or Ion Removal of Contaminant," Int. Symp. on Optical and Optoelectronic Applied Science and Engineering, San Diego, Calif. (8–13 Jul 1990).

Benson, R. C., Phillips, T. E., and de Haas, N., "Volatile Species from Conductive Die Attach Adhesives," 39th Electronic Components Conf., Houston, Tex. (22–24 May 1989).

Blum, B. I., "Medical Informatics, Clinical Decision Making, and Artificial Intelligence," Smart Hospitals Meeting, Milan, Italy (19–22 Apr 1989).

Blum, B. I., "A Knowledge-Based View of Re-Engineering: A Bridge to the New Development Paradigms," Naval Surface Warfare Center Software Re-Engineering Workshop, White Oak, Md. (21–22 Feb 1990).

Blum, B. I., "Human Information Processing in Software Development," Int. Conf. on Human Factors in Information Systems Analysis and Design, Scharding, Austria (5–8 Jun 1990).

Blum, B. I., "The Software Process: Language, Representation, Environment," Office of Naval Research Language Workshop, Univ. Utah (10–11 Jul 1990).

Bohandy, J., Kim, B. F., Phillips, T. E., Adrian, F. J., and Moorjani, K., "Investigation of Weak Link Microstructure by Modulated Resistance Techniques," ICMC '90 Topical Conf. on High Temperature Superconductors, Material Aspects, Garmisch-Partenkirchen, FRG (9–11 May 1990).

Boone, B. G., Moorjani, K., Sova, R. M., Kim, B. F., Bohandy, J., Green, W. J., and Edwards, R. L., "Development of Bi–Sr–Ca–Cu–O Thin Film Devices for Microelectronic Applications," 175th Meeting of the Electrochemical Society, Los Angeles (7–12 May 1989).

Bryden, W. A. (APL), Morgan, J. S. (JHU), Kistenmacher, T. J., Dayan, D., Fainchtein, R. (APL), and Poehler, T. O. (JHU), "Growth and Characterization of InN Thin Films," Int. Conf. on Thin Films, San Diego, Calif. (2–6 Apr 1990).

Campbell, J. N., Koschorke, G. M., and Oakland, D. B. (JHMI), and Meyer, R. A. (APL), "The Mechanism for the Development of Ectopic Excitability to Mechanical Stimuli in Neuromas," Neurobiology of Nociception, Satellite Meeting of the 6th World Congress on Pain, Kauai, Hawaii (Apr 1990).

Cardone, W. M., "Operational Amplifier Macromodeling for SPICE," 1989 Valid Users Group Meeting, Phoenix, Ariz. (Sep 1989).

Cardone, W. M., "BJT Modeling for SPICE," 1990 Int. Mentor Users Group Conf., Portland, Ore. (Apr 1990).

Cardone, W. M., "Constant Power Load Model for SPICE," 1990 Int. Mentor Users Group Conf., Portland, Ore. (Apr 1990).

Chao, K., "Space Qualification Test and Evaluation of JHU/APL Designed ASICS," IEEE VLSI Test Symp., Atlantic City, N.J. (10–11 Apr 1990).

Christens-Barry, W. A. (APL), and Martin, J. C. (Univ. Alabama), "Vander Lugt Correlation of Symbolic DNA Sequence Data," Conf. on Optical Information Processing Systems and Architecture II, San Diego, Calif. (10 Jul 1990).

Colbert, E. J. M. (APL), and Teti, N. M. (Swales & Assoc.), "Preliminary Spacecraft Thermal Design on an MS-DOS Microcomputer," 20th Intersociety Conf. on Environmental Systems, Williamsburg, Va. (9–12 Jul 1990).

Darling, J. P., "Iterative Algorithm for Solving the Nonlinear Poisson Equation," UMIACS Workshop on Massively Parallel Computing: Applications, Algorithms, and Architectures, Univ. Maryland, College Park, Md. (7 Jun 1990).

DeBrower, A. M., and Jones, D. T., "PAMELA: The Gift Assistant," 27th Annual Clinic on Library Applications of Data Processing, Champaign, Ill. (25–27 Mar 1990).

Dettmer, J. R., "System Integration: A Personal Computer-Based System Designer's Synthesis Tool," IEE Workstation Symp., JHU/APL, Laurel, Md. (25 Oct 1989).

Eaton, H. A. C., "Magnetic Nerve Stimulation," IEEE EMBS, Baltimore Chapter (22 Feb 1990).

Eberhart, R. C. (APL), and Dobbins, R. W., and Webber, W. R. S. (JHMI), "Neural Network Based Systems for EEG Waveform Classification," Annual Meeting of the American Epilepsy Society, Boston, Mass. (Dec 1989).

Fainchtein, R., Dayan, D., and Murphy, J. C., "Morphological Characterization of Thin Semiconducting InN Films with the Scanning Tunneling Microscope," STM '89 Fourth Int. Conf. on Scanning Tunneling Microscopy, Oarai, Japan (9–14 Jul 1989).

Fainchtein, R., and Murphy, J. C., "STM/STS of the Organic Superconductors (TMTSF)$_2$ PF$_6$ and (TMTSF)$_2$C10$_4$," 5th Int. Conf. on Scanning Tunneling Microscopy and 1st Int. Conf. on Nanostructures, Baltimore, Md. (23–27 Jul 1990).

Fainchtein, R. (APL), and Pan, S., and De Lozanne, A. L. (Univ. Texas at Austin), "Scanning Tunneling Microscopy and Spectroscopy of Quasi One-Dimensional Organic Conductors," Int. Conf. on Organic Superconductivity, Lake Tahoe, Calif. (20–24 May 1990).

Fainchtein, R. (APL), Yamaquchi, S. (Mitsubishi), and Viands, C. A., and Murphy, J. C. (APL), "Direct Molecular Observations on Organic Conductors with a Scanning Tunneling Microscope," STM '89 4th Int. Conf. on Scanning Tunneling Microscopy, Oarai, Japan (9–14 Jul 1989).

Farrell, R. A., "Hierarchical Structure and Function of the Cornea," US/ARO Workshop on Biostructures as Composite Materials Systems, Case Western Reserve University, Cleveland, Ohio (Oct 1989).

Farrell, R. A., "Transparency of the Cornea," NEI Workshop on Corneal Biophysics II, Bethesda, Md. (Feb 1990).

Farrell, R. A., Bargeron, C. B., and McCally, R. L. (APL), and Green, W. R. (JHMI), "Corneal Effects Produced by IR Laser Radiation," Optics, Electro-Optics & Laser Applications in Science and Engineering, Los Angeles (15–19 Jan 1990).

Farrell, R. A., Freund, D. E., and McCally, R. L., "Light Scattering and Transparency," Emory Univ. Seminar on Corneal Biophysics, Atlanta, Ga. (Mar 1990).

Farrell, R. A., Freund, D. E., and McCally, R. L., "Corneal Ultrastructure Probed by Angular Light Scattering," 9th Int. Congress of Eye Research, Helsinki, Finland (29 Jul–4 Aug 1990).

Farrell, R. A., McCally, R. L., and Freund, D. E., "Scattering from Ensembles of Cylinders: Application to Cornea," Washington Area Statistical Physics Symp., Washington, D.C. (Nov 1989).

Feldmesser, H. S., McCarty, T. A., Dietrich, A. E., Romenesko, B. M., and Falk, P. R., "Fabricating with Thermabond," 9th Annual MIC Workshop, San Diego, Calif. (19 Mar 1990).

Flower, R. W., "The Extraction of Blood Flow Data from Choroidal Angiograms: An APL/JHMI Collaborative Biomedical Research Project," School of Hygiene and Public Health, JHMI, Baltimore, Md. (Oct 1989).

Flower, R. W., "Development of Near-IR Angiography," Meeting on Optronic Techniques in Diagnostic and Therapeutic Medicine, Florence, Italy (Mar 1990).

Flower, R. W., Fryczkowski, A. W., Baumgartner, R. H., Klein, G. L., and Jonasson, O., "Diabetic Chorodiopathy in Monkeys," 26th Int. Congress of Ophthalmology, Singapore (Mar 1990).

Flower, R. W., Fryczkowski, A. W., and Klein, G. L., "The Choroidal Repair Process in Monkeys, Scanning Electron Microscopy Study," Atlanta, Ga. (Oct 1989).

Frank, G. M., "Using a Spreadsheet to Calculate Inquire/Text Required DASD," INFODATA Int. Conf., San Diego, Calif. (1–4 Apr 1990).

Fristrom, R. M., "Scavenger Probe Sampling," Invited Lecture, Institute for Chemical Kinetics and Combustion of the Siberian Branch of National Academy of Sciences, Novosibirsk, SSR (13 Sep 1989).

Fristrom, R. M., "Laminar Flame Structure," Seminar, Kazakh State University, Alma Atta, Kazakhstan, SSR (20 Sep 1989).

Fristrom, R. M., "The APL Research Center Combustion Program," Seminar, Department of Physical Chemistry, Univ. Louvain, Belgium (31 Aug 1990).

Glenn, S. M. (Harvard Univ.), Porter, D. L. (APL), and Robinson, A. R. (Harvard Univ.), "Estimation of Mesoscale Dynamic Topography in the Gulf Stream Region Using the Geosat Altimeter and a Synthetic Geoid," AGU Ocean Science Meeting, New Orleans, La. (9 Jan 1990).

Grabow, B. E., Sova, R. M., Boone, B. G., Moorjani, K., Kim, B. F., Bohandy, J., and Green, W. J., "Optical and Microwave Detection Using Bi–Sr–Ca–Cu–O Thin Films," Int. Conf. on Advances in Material Science and Applications of High-Temperature Superconductors, NASA–GSFC, Greenbelt, Md. (2–6 Apr 1990).

Hart, E. F., "SHARE White Paper: ASCII and EBCDIC Character Set and Code Issues in Systems Application Architecture," Common Fall 1989 Conf., Anaheim, Calif. (27 Sept 1989).

Hart, E. F., "ASCII and EBCDIC Character Set and Code Inconsistencies in SAA," Seminar at IBM Santa Teresa Laboratory, San Jose, Calif. (16 Nov 1989).

Hart, E. F., "Why Don't My Characters Print/Display/Transfer Correctly? Tutorial on Coded-Character-Set Standards Issues," SHARE 74, Anaheim, Calif. (5 Mar 1990).

Hart, E. F., "International Character Problem When Developing Multinational Applications," Common Spring 1990 Conf., Chicago (2 May 1990).

Horton, C. W. (NAVO), Porter, D. L. (APL), DeWitt, P. W. (FNOC, Monterey, Calif.), and Rankin, W. E. (NAVO), "Altimeter Observations near the Kuroshio Extension," AGU Ocean Science Meeting, New Orleans, La. (9 Jan 1990).

Jensen, J. R., "Detection of Ship-Generated Internal Waves with Delta-K Radar," Remote Sensing of Ship Wakes Meeting, Farnborough, Hants, England (29 Mar 1990).

Kim, B. F., Bohandy, J., Adrian, F. J., and Moorjani, K., "Research in High Temperature Superconductivity at The Johns Hopkins University Applied Physics Laboratory," Naval Consortium for Superconductivity, Naval Weapons Center, China Lake, Calif. (7 Dec 1989).

Kim, B. F., Bohandy, J., Adrian, F. J., Moor-

jani, K., Phillips, T. E., and Green, W. J. (APL), and Agostinelli, E. (ITSE-CNR, Rome), "Thin Film Research and Development at the Applied Physics Laboratory, The Johns Hopkins University," SC Global '90, Long Beach, Calif. (16-19 Jan 1990).

Kinnison, J. D., "A Probabilistic Approach to Predicting Device Upset Rates," 7th Symp. on Single Event Effects, Los Angeles (24-25 Apr 1990).

Kistenmacher, T. J., "Substitution Induced Superstructures in Cu(1)-doped $YBa_2(Cu_{1-4})$ $(M_x)_3O_7$ Ceramics," American Crystal Association, Seattle, Wash. (27-29 June 1989).

Korschorke, G. M., Meyer, R. A., and Campbell, J. N., "Evidence that Axonal Transport Is Involved in the Development of Mechanosensitivity in an Acutely Injured Nerve," American Pain Society, Phoenix, Ariz. (Nov 1989).

Kosmin, L. J., "Electronic Reference Desk: Prospects, Promises, Realities," National Online Meeting, New York (3 May 1990).

Ku, H., and Rosenberg, A. (APL), and Taylor, T. (CNA), "High-Order Time Integration Scheme and Preconditioned Residual Method for Solution of Incompressible Flow in Complex Geometries," 12th Int. Conf. on Numerical Methods in Computational Fluid Dynamics, Oxford Univ., UK (9-13 Jul 1990).

Kues, H. A., "Effects of Non-Ionizing Radiation on the Eye," U.S. Environmental Protection Agency, Washington, D.C. (Feb 1990).

Kues, H. A., and McLeod, D. S. (APL), D'Anna, S. A., and Lutty, G. A. (JHU), and Monahan, J. C. (FDS), "Retinal Changes in the Primate Following Pulsed 2.45 GHz Exposures," 12th Annual Meeting of the Bioelectromagnetics Society, San Antonio, Tex. (Jun 1990).

Lee, R. E., and Linevsky, M. J., "Shadowgraph Studies of Angular Injection of a Sonic Jet into a Mach 2.8 Supersonic Flow," AIAA 21st Fluid Dynamics, Plasma Dynamics and Lasers Conf., Seattle, Wash. (18-20 Jun 1990).

Maurer, R. H., Chao, K., Nhan, E., Benson, R. C., and Bargeron, C. B., "Reliability Study of Gallium Arsenide Transistors," 40th Electronic Components and Technology Conf., Las Vegas, Nev. (21-23 May 1990).

Maurer, R. H., Kinnison, J. D., and McKerracher, P. L., "A Summary of Recent VLSI SEU and Latch-Up Testing," 7th Symp. on Single Event Effects, Los Angeles (24-25 Apr 1990).

McCally, R. L., and Moorjani, K., "Magnetic and Hyperfine Interactions in Amorphous Fe-P Alloys," 34th Annual Conf. on Magnetism and Magnetic Materials, Boston, Mass. (28 Nov-1 Dec 1989).

Moorjani, K., "Studies of Superconducting Bulk and Thin Film Samples by Modulation Techniques," Laser Technology Research Programme Seminar, Indian Institute of Technology, New Delhi, India (4 Jan 1990).

Moorjani, K., "Cuprate Oxide Superconductors," Dept. Physics and Astronomy Colloquium, University of Delhi, India (8 Jan 1990).

Moorjani, K., "Superconductivity: What Is It? Where Will It Lead?," Science and Technology in International Affairs, Paul Nitze School of Advanced Int. Affairs, JHU, Washington, D.C. (23 Apr 1990).

Moorjani, K., "Inhomogeneities in Single Crystals of Cuprate Oxide Superconductors," Colloquium, National Institute of Standards and Technology, Gaithersburg, Md. (1 May 1990).

Moorjani, K., "Inhomogeneities in Cuprate Oxide High Temperature Superconductors," Colloquium, Dept. of Physics, Emory Univ., Atlanta, Ga. (3 May 1990).

Moorjani, K., "Disorder Induced Effects in Superconducting Oxides," Colloquium at Centre National de la Recherch, Grenoble, France (13 Jun 1990).

Moorjani, K. (APL), and Berlinsky, A. J. (McMasters U., Ontario, Canada), "Structure-Property Relationships in High Temperature Superconductors: Panel Discussion," Int. Conf. on Advances in Materials Science and Application of High Temperature Superconductors, Greenbelt, Md. (2-6 Apr 1990).

Moorjani, K., Bohandy, J., Kim, B. F., and Adrian, F. J., "Inhomogeneities in Single Crystals of Cuprate Oxide Superconductors," Int. Conf on Advances in Materials Science and Applications of High Temperature Superconductors, Greenbelt, Md. (2-6 Apr 1990).

Moorjani, K., Kim, B. F., Bohandy, J., and Adrian, F. J., "Modulation Techniques for Studying Superconductors," Int. Conf. on Superconductivity, Bangalore, India (10-14 Jan 1990).

Olsen, D. E., Spaur, C. W., and Cristion, J. A., "Biological Signal Processing," Joint Meetings of the Biometric Soc., Baltimore, Md. (3 Apr 1990).

Pan, S., and De Lozanne, A. L. (Univ. Texas at Austin), and Fainchtein, R. (APL), "STM Studies of Quasi One-Dimensional Organic Conductors," 5th Int. Conf. on Scanning Tunneling Microscopy and 1st Int. Conf. on Nanostructures, Baltimore, Md. (23-27 Jul 1990).

Parker, J. G., "OE LASE '90," SPIE, Biomedical Optics '90 Conf. 1203, Photodynamic Therapy: Mechanisms II, Los Angeles, (Jan 1990).

Porter, D. L. (APL), and Glenn, S. M., and Robinson, A. R. (Harvard Univ.), "Geosat Observations and Validation of the Total Dynamic Topography of the Gulf Stream," Oceans from Space, Venice, Italy (May 1990).

Raul, R. (APL), and Bernard, P. S. (Univ. Maryland), "Numerical Simulation of Unsteady Forces on a Square Prism in Turbulent Flow," 28th AIAA Aerospace Meeting, Reno, Nev. (8-11 Jan 1990).

Raul, R. (APL), and Bernard, P. S. (Univ. Maryland), "Turbulent Cube Flow: A Numerical Investigation," 1990 ASME Fluids Engineering Conf., Toronto, Ontario, Canada (4-7 Jun 1990).

Reilly, J. P., "Prediction of Peripheral Nerve and Cardiac Excitation Thresholds from Time-Varying Magnetic Fields," Bioelectromagnetics Soc., San Antonio, Tex. (10-14 Jun 1990).

Robinson, A. R. (Harvard Univ.), Porter, D. L. (APL), and Glenn, S. M. (Harvard Univ.), "Gulf Stream Currents from Satellite Altimetry via a Synthetic Geoid Method," MTS 90, Washington, D.C. (26-28 Sep 1990).

Sadowsky, J., "Spectral Properties of Weil Transforms," 24th Annual Conf. on Information Sciences and Systems, Princeton Univ., Princeton, N.J. (21-23 Mar 1990).

Sadowsky, J., "What Every Computer Scientist Should Know about Signal Processing," Student-Faculty Colloquium of the Computer Science Program, Montgomery County Campus, JHU Whiting School of Engineering, Rockville, Md. (26 Apr 1990).

St. Ville, J. A. (Inst. for Bone and Joint Disorders, Phoenix), Ecker, J. A. (APL), and Winget, J. M. (Silicon Graphics, Inc., Mountain View, Calif.), "Anatomy of Mid-Thigh Pain After Total Hip Arthroplasty," State-of-the-Art in Total Joint Replacement, Scottsdale, Ariz. (19-22 Nov 1989).

St. Ville, J. A. (Inst. for Bone and Joint Disorders, Phoenix), Ecker, J. A. (APL), and Winget, J. M. (Silicon Graphics, Inc., Mountain View, Calif.), "Three-Dimensional Finite Element Analysis of an Artifical Hip and Bone," 1990 MSC World Users Conf., Los Angeles (26-30 Mar 1990).

Schetz, J. A. (V.P.I., Blacksburg, Va.), and Billig, F. S., Gilreath, H. E., and Favin, S. (APL), "Effects of Pressure Mismatch on Slot Injection in Supersonic Flow," Paper No. AIAA 90-0092, 28th Aerospace Science Meeting, Reno, Nev. (8-12 Jan 1990).

Schuster, P. R., Viands, C. A., and Potember, R. S., "Complex Colloidal Suspensions for Enhancement and Frequency Tuning of the Nonlinear Response," Optical Soc. Am. Annual Meeting, Orlando, Fla. (18 Oct 1989).

Sigillito, V. G., "Neural Networks and Expert Systems: Similarities and Differences," 5th Annual AI Systems in Government Conf., Washington, D.C. (6-11 May 1990).

Sigillito, V. G., "Neural Networks: Some Applications," Computer Science Seminar, Space Telescope Institute, Baltimore, Md. (16 Jun 1990).

Silver, D. M., "Diagrammatic Quasi-Degenerate Many-Body Perturbation Theory," Colloquium, Physical and Theoretical Chemistry, Universitat Regensburg, Regensburg, FRG (17 Apr 1989).

Skura, J. P., Schemm, C. E., Ko, H. W., and Manzi, L. P., "Radar Coverage Predictions through Time and Range Dependent Refractive Atmospheres with Planetary Boundary Layer and Electromagnetic Parabolic Equation Models," IEEE International Radar Conf., Arlington, Va. (9 May 1990).

Spicer, J. W. M., Kerns, W. D., Aamodt, L. C., and Murphy, J. C., "Coating Disbond Characterization by Time-Resolved Infrared Radiometry (TRIR)," 4th Int. Symp. Nondestructive Characterization of Materials, Annapolis, Md. (11-14 Jun 1990).

Srinivasan, R., and Murphy, J. C. (APL), and Schroebel, C. B., and Lillard, R. S. (JHU), "Corrosion Detection on Underground Gas Pipelines by Magnetically Assisted A.C. Impedance," Corrosion 90, National Association of Corrosion Engineers, Las Vegas, Nev. (23-27 Apr 1990).

Stadter, J. T., Kime, J. R., O'Connor, J. S., and Resch, C. L., "Hypersonic Missile Ra-

dome Attachment Development," 3rd Electromagnetic Windows Symp., Huntsville, Ala. (14–16 Nov 1989).

Takahashi, K., "Interaction between Long-Period ULF Pulsations and Energetic Particles," 1990 Cambridge Workshop on Magnetic Fluctuations, Diffusion and Transport in Aeroplasmas," MIT, Cambridge, Mass. (16–20 Jul 1990).

Taylor, L. W., "Multivendor Connectivity Solutions," Int. Communications Association Annual Conf., New Orleans, La. (23 May 1990).

Taylor, L. W., "Computer Viruses: One Organization's Response," Special Libraries Association Annual Conf., Pittsburgh, Pa. (13 Jun 1990).

Thomas, M. E., "Atmospheric Absorption Model from 0.01 to 10 Wave Numbers," SPIE, Propagation Engineering Conf., Orlando, Fla. (20 Apr 1990).

Thompson, D. R., "Microwave Scattering from the Ocean Surface," Seminar, Earth and Planetary Science Dept., JHU, Baltimore, Md. (11 Apr 1990).

Thompson, D. R., Apel, J. R., and Gasparovic, R. F., "Synthetic Aperture Radar Imaging of Ship-Generated Internal Waves in Loch Linnhe," AGU Ocean Sciences Meeting, New Orleans, La. (13 Feb 1990).

Thompson, D. R., Apel, J. R., and Gasparovic, R. F., "Synthetic Aperture Radar Imaging of Ship-Generated Internal Waves in Loch Linnhe," Remote Sensing of Ship Wakes, Farnborough, England (29 Mar 1990).

Treede, R. D. (JHMI), Meyer, R. A. (APL), and Campbell, J. N. (JHMI), "A Subclass of A-Fiber Nociceptors May Signal First Pain," Am. Pain Society, Phoenix, Ariz. (Nov 1989).

Trimble, W. C., "MMIC RF Test Techniques, Chip and Package," IEEE VLSI Test Symp., Atlantic City, N.J. (Apr 1990).

Vetter, J. R., Schwenk, V. L., and Hattox, T. M., "An Improved GPS Based Tracking System for High Accuracy Trident II Missile Navigation and Guidance Evaluation," Holloman Air Force Base, Alamagordo, N. M. (3–5 Oct 1989).

Weintraub, D. M., "Using the APL2 External Function Interface to Invoke Assembler Routines," SHARE 74, Anaheim, Calif. (6 Mar 1990).

Weintraub, D. M., "APL2OS: Design Considerations for a Nested Array File System," APL90, Copenhagen (15 Aug 1990).

Williams, D. J., "The International Solar-Terrestrial Energy Program, STEP," NSF CEDAR Workshop, Boulder, Colo. (12–16 Jun 1990).

Williams, D. J., "Energetic Particles in Planetary Magnetospheres," COSPAR 28th Plenary Meeting, The Hague, The Netherlands (25 Jun–6 Jul 1990).

Williams, D. J., "Planetary Magnetospheric Substorms," Fred Scarf Memorial Symp., Annapolis, Md. (20–24 Aug 1990).

Williams, D. J., "Energetic Particles in Planetary Magnetospheres," Fred Scarf Memorial Symp., Annapolis, Md. (20–24 Aug 1990).

Williamson, C. L., "Serials Reorganization—Managing with a MacIntosh," Computer in Libraries, Arlington, Va. (6 Mar 1990).

The following papers were presented at the Society of Geomagnetism and Earth, Planetary and Space Sciences Spring Meeting, Tokyo Inst. Technol. (6–8 Apr 1990):

Nagai, T. (Meteorological Res. Inst., Japan), and Takahashi, K. (APL), "Structure of Field-Aligned Currents in the Near-Earth Magnetotail—2."

Takahashi, K. (APL), and Yumoto, K., and Watanabe, T. (Nagoya Univ.), "Si-Associated Magnetospheric Oscillations during the Great Magnetic Storm of February 1986."

Yumoto, K. (Nagoya Univ.), Miyaoka, H. (National Inst. Polar Res., Japan), Tanaka, Y. (Nagoya Univ.), Hirasawa, T. (National Inst. Polar Res., Japan), and Takahashi, K. (APL), "Low-Latitude Aurora during the Great Magnetic Storm of October 1989."

The following papers were presented at the American Physical Society Meeting, Anaheim, Calif. (12–16 Mar 1990):

Adrian, F. J., "Crystal Field Model of Hole Energies and Motions in the High-T_c Superconductors."

Agostinelli, E. (ITSE-CNR, Rome, Italy), and Bohandy, J., Green, W. J., Kim, B. F., Adrian, F. J., and Moorjani, K. (APL), "Deposition of Superconducting Thin Films by Laser Ablation Using a Melt-Quenched, Amorphous Target."

Bryden, W. A., Kistenmacher, T. J., Morgan, J. S., and Ecelberger, S. A. (APL), and Poehler, T. O. (JHU), "Growth and Characterization of Epitaxial InN Thin Films."

Fainchtein, R., "Scanning Tunneling Microscopy and Spectroscopy of the Organic Superconductors $(TMTSF)_2PF_6$ and $(TMTSF)_2 C10_4$."

Kistenmacher, T. J., Bryden, W. A., Morgan, J. S., and Ecelberger, S. A. (APL), and Poehler, T. O. (JHU), "Texture and Heteroepitaxy in Thin Films of InN on (0001) Sapphire."

Morgan, J. S., Bryden, W. A., and Kistenmacher, T. J., "Growth Morphology Studies of InN Thin Films."

Murphy, J. C., and Fainchtein, R., "Scanning Tunneling Microscopy and Spectroscopy of Quasi One-Dimensional Organic Conductors."

Pan, S., and De Lozanne, A. L. (Univ. Texas at Austin), and Fainchtein, R. (APL), "STM Studies of TTF-TCNQ."

The following papers were presented at the 6th World Congress on Pain, Adelaide, Australia (Apr 1990):

Campbell, J. N., Davis, K. D., Meyer, R. A., and North, R. B., "The Mechanism by Which Dorsal Column Stimulation Affects Pain: Evidence for a New Hypothesis."

Cohen, R. H., Meyer, R. A., Davis, K. D., Treede, R. D., and Campbell, J. N., "Mechanically Insensitive Afferents (MIAs) in Cutaneous Nerves of Monkey."

Davis, K. D., Campbell, J. N., Raja, S. N., Treede, R. D., Lin, C., and Meyer, R. A., "Topical Application of an Alpha2-

Adrenergic Agonist Relieves Hyperalgesia in Sympathetically-Maintained Pain: A Case Study."

Korschorke, G. M., Meyer, R. A., and Campbell, J. N., "The Development of Neural Responsiveness to Mechanical Stimuli at the Location of Nerve Injury Requires Axonal Transport."

Lin, C., Cohen, R. H., Rosenberg, A., Meyer, R. A., and Campbell, J. N., "Capsaicin Fails to Block Conduction in the Intact Primate Nerve."

Raja, S. N., Kozak, S. L., Manning, D. C., Meyer, R. A., and Campbell, J. N., "Intradermal Bradykinin Induces Hyperalgesia to Heat Stimuli in Man."

Treede, R. D., Raja, S. N., Davis, K. D., Meyer, R. A., and Campbell, J. N., "Evidence that Alpha-Adrenergic Receptors Mediate Sympathetically Maintained Pain (Reflex Sympathetic Dystrophy)."

The following papers were presented at the American Statistical Assoc. Annual Meeting, Anaheim, Calif. (6–9 Aug 1990):

Chin, D. C., "Comparative Study of Several Multivariate Stochastic Approximation Algorithms."

Hill, S. D., and Spall, J. C., "A Functional Analysis Approach to Characterizing the Sensitivity of the Posterior to the Prior."

Maryak, J. L., and Asher, M. S., "Isolating Modeling Errors in State-Space Models, with Application to Inertial Navigation."

Spall, J. C., "Stochastic Approximation Based on a Simultaneous Perturbation Gradient Approximation."

Spall, J. C., and Maryak, J. L., "Feasible Bayesian Estimator of Projectile Estimator from Non-I.I.D. Impacts."

Xang, X. (Memorial Univ., Newfoundland), and Maryak, J. L., and Spall, J. C. (APL), "Computable Bounds on the Rate of Convergence to Normality for Maximum Likelihood Estimates."

The following papers were presented at the Int. Geoscience and Remote Sensing Symp., College Park, Md. (20–24 May 1990):

Abdul-Jauwad, S. H., Halawani, T. U., and Al-Khaldi, I. A. (King Fahd Univ.), Ko., H. W. (APL), Fahy, W. T. (USAF, Elec. Systems Div.), and Roberts, D. A., and Meyer, J. H. (APL), "Sensitivity of Troposcatter Communications to the Resolution of Radiosonde Data."

Babin, S. M, Rowland, J. R., and Miller, R. E., "Studies of the Lower Marine Troposphere Using a Dual Frequency High Power Acoustic Sounder."

Dockery, G. D., "Analysis of Fade Characteristics for an Over-Water Microwave Link Path."

Goldhirsh, J., Babin, S. M., Musiani, B. H., and Grebo, N. E., "Fade Measurements and Statistics for Two Over-the-Water Propagation Links at C Band."

Monaldo, F. M., "Reconsideration of the SAR Modulation Transfer Function for the Imaging of Ocean Surface Waves."

The following papers were presented at the Fall Meeting of the American Geophysical Union, San Francisco, Calif. (4–9 Dec 1989):

Cheng, C. Z. (Princeton Univ. Plasma Phys. Lab.), Takahashi, K. (APL), and Belian, R. D. (Los Alamos National Lab.), "Simultaneous Excitation of Pc4 and Pc5 Waves in the Ring Current."

Nagai, T. (Meteorological Res. Inst., Japan), Takahashi, K., Lopez, R. E., McEntire, R. W., and Potemra, T. A. (APL), and Klumpar, D. M. (Lockheed Palo Alto Res. Lab.), "Field-Aligned Currents in the Near-Earth Magnetotail."

Ross, M. N., and Christensen, A. B. (The Aerospace Corp.), and Meng, C.-I. and Carbary, J. F. (APL), "Observations of the Midnight O2 Herzberg I Layer."

Takahashi, K. (APL), and Strangeway, R. J. (UCLA), "Long-Period ULF Waves in the Inner Magnetosphere: AMPTE/CCE Observations."

The following papers were presented at the Association of Research in Vision and Ophthalmology, Sarasota, Fla. (29 Apr–4 May 1990):

Farrell, R. A., Freund, D. E., and McCally, R. L., "Angular Light Scattering in the Cornea: Implications Regarding Fibrillar Ordering."

Flower, R. W., Fryczkowski, A. W., and Klein, G. L., "Follow-up of the Diabetic Microangiopathy in Monkeys."

Lutty, G. A. (JHU), and Wajer, S. D., and McLeod, D. S. (APL), "A New Technique for Visualization of the Human Retinal Vasculature."

McCally, R. L., Freund, D. E., and Farrell, R. A., "Small Angle Light Scattering from Human Cornea."

McLeod, D. S. (APL), Lutty, G. A., and

D'Anna, S. A. (JHU), Monahan, J. C. (FDA), and Kues, H. A. (APL), "Potentiation of Microwave-Induced Ocular Pathology by Timolol Maleate."

Silver, D. M. (APL), Collier, Z. T. (JHMI), Farrell, R. A., and Hart, R. W. (APL), and Grebe, R., Hopkins, S. D., Langham, M. E., and Schilder, P. (JHMI), "Species Specific Shapes for Net Pulsatile Ocular Blood Flow."

The following papers were presented at the Spring Meeting of the American Geophysical Union, Baltimore, Md. (29 May–1 Jun 1990):

Nagai, T. (Meteorological Res. Inst., Japan), and Takahashi, K., Potemra, T. A., McEntire, R. W. (APL), "A Multisatellite Statistical Study of Field-Aligned Currents in the Near-Earth Magnetotail."

Strangeway, R. J. (UCLA), Klumpar, D. M. (Lockheed Palo Alto Res. Lab.), and Takahashi, K. (APL), "Plasma Densities as Measured in the Earth's Inner Magnetosphere and Magnetosheath by the AMPTE/CCE Plasma Wave Experiment."

Takahashi, K., Sibeck, D. G., and Newell, P. T., "ULF Waves in the Low-Latitude Boundary Layer and in the Magnetosphere: A Multisatellite Observation."

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6 Apr 1990—"Magnetically Levitated Trains," A. R. Eastham, Queens University.
13 Apr—"Mobile Robotics for Nuclear Energy-Related Applications," R. Mann, Oak Ridge National Laboratory.

20 Apr—"Computational Complexity and Economics," D. J. Kleitman, Massachusetts Institute of Technology.
27 Apr—"Correlations of Galaxies on a Cosmic Scale," A. Szalay, JHU.
4 May—"Indoor Air Quality," S. Denardi, University of Massachusetts.
11 May—"Orbital Debris: Implications for Spacecraft Operations," D. J. Kessler, NASA–Johnson Space Center.
18 May—"Symmetry, Chemistry, and Optics: Approach to Molecular Engineering in Nonlinear Optics," J. Zyss, Centre National d'Etutes de Telecommunications.
1 Jun—"Neural Networks, Machine Vision, and Automatic Target Recognition," M. W. Roth, APL.
15 Jun—"From Hiroshima to Glasnost: Reflections on Four Perilous Decades," P. H. Nitze, JHU.
28 Sep—"Global Imaging of Planetary Magnetospheres," E. C. Roelof, APL.
5 Oct—"Global Warming and Recent Climate Change: Observation and Modeling," K. E. Trenberth, National Center for Atmospheric Research.
12 Oct—"Chaos and Fractals in the Forced Damped Pendulum," J. A. Yorke, Univ. Maryland.
19 Oct—"Gravitational Lensing and Cosmology," E. L. Turner, Princeton University.
26 Oct—"Bioremediation of Oil Spills," R. M. Atlas, University of Louisville.
2 Nov—"Software Fault Tolerance Using Certification Trails," G. M. Masson, The Johns Hopkins University.
9 Nov—"Communicating Science," B. Z. Shakhashiri, University of Wisconsin.
16 Nov—"Modeling the General Circulation of the Thermosphere/Ionosphere and Its Response to Solar Variability," R. G. Roble, National Center for Atmospheric Research.
30 Nov—"Approaches to the Neurobiology of Language," G. M. McKhann, The Johns Hopkins University.

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