

PUBLICATIONS

- Apel, J. R. (APL), and Garland, G. D. (Univ. Toronto), *Quo Vadimus Geophysics for the Next Generation*, Geophysical Monograph Series/IUGG Series No. 60, Apel, J. R., and Garland, G. D. (eds.), Vol. 10, AGU, Washington, D.C. (1990).
- Bankman, I. N. (APL), Johnson, K. O. (JHU), Menkes, A. M., and Diamond, S. D. (APL), and O'Shaughnessy, D. M. (JHU), "Automated System for Analyzing the Activity of Individual Neurons," in *Proc. Technology 2002*, 3rd Natl. Technology Transfer Conf. & Exposition, NASA Conf. Pub. 3189, Vol. 2, Washington, D.C., pp. 138-145 (1992).
- Bankman, I. N., Kim, D. W., and Christens-Barry, W. A. (APL), and Weinberg, I. N., Gatewood, O. B., and Brody, W. R. (JHU), "Automated System for Early Breast Cancer Detection in Mammograms," in *Proc. Technology 2002*, 3rd Natl. Technology Transfer Conf. & Exposition, NASA Conf. Pub. 3189, Vol. 1, Washington, D.C., pp. 77-85 (1992).
- Burgan, M. W., "How to Take Over a Document 'In Medias Res,'" in *Proc. 40th Annual Conf. Soc. for Tech. Communication*, Arlington, Va., pp. 22-25 (1993).
- Charles, H. K., Jr., "Packaging with Multichip Modules," in *Proc. 13th Int. Electronics Manufacturing Technology Symp.*, Baltimore, Md., pp. 206-210 (1992).
- Cheng, A. F., and Krimigis, S. M. (APL), and Lanzerotti, L. J. (AT&T Bell Labs.), "Energetic Particles at Uranus," in *Uranus, Part VI, Magnetosphere*, Bergstrahl, J. T., Miner, E. D., and Matthews, M. S. (eds.), The University of Arizona Press, Tucson, pp. 831-893 (1991).
- Cox, R. J., Strickland, D. J., and Barnes, R. P. (Computational Physics, Inc.), Anderson, D. E., Jr., and Paxton, L. J. (APL), and Meier, R. R. (NRL), "A Model for Generating UV Images at Satellite Altitudes," in *Proc. Int. Soc. Opt. Eng., Ultraviolet Technology IV*, SPIE, Bellingham, Wash., Vol. 1764, pp. 177-189 (1992).
- Decker, R. B., Gold, R. E., and Krimigis, S. M., "Distributions of 30-400 KeV Ions Associated with an Interplanetary Shock at Voyager 2 (30 AU) and Voyager 1 (38 AU) in 1989," in *Proc. 22nd Int. Cosmic Ray Conf.*, Dublin, Ireland, Vol. 3, pp. 296-299 (Aug 1991).
- Decker, R. B., and Krimigis, S. M. (APL), and Venkatesan, D. (Univ. Calgary), "Onset of Cosmic Ray Modulation Observed at Voyagers 1 and 2 During the Early Phase of Solar Cycle 22," in *Proc. 21st Cosmic Ray Conf.*, Adelaide, Australia, pp. 152-155 (Jan 1990).
- Dyer, J. S. (Utah State Univ.), Benson, R. C., and Phillips, T. E. (APL), and Guregian, J. J. (Sensor Systems Group), "Outgassing Analyses Performed During Vacuum Bakeout of Components Painted with Chemglaze Z306/9922," in *Proc. Opt. System Contamination: Effects, Measurement, Control III*, SPIE, Bellingham, Wash., Vol. 1754, pp. 177-194 (1992).
- Ehrlich, L. W., and Silver, D. M., "Iterative Approaches in Solving a 3-D Complex Vector Helmholtz Equation," in *Proc. Copper Mountain Conf. on Iterative Methods*, Vol. 2, DOE, Univ. Colo., Denver, pp. 1-10 (1992).
- Evans, J. S., and Strickland, D. J. (Computational Physics, Inc.), and Anderson, D. E., Jr., and Paxton, L. J. (APL), "Twilight Rayleigh Scattering Observed from Ground and Space," in *Proc. Int. Soc. Opt. Eng., Ultraviolet Technology IV*, SPIE, Bellingham, Wash., Vol. 1764, pp. 361-374 (1992).
- Gold, R. E., Decker, R. B., and Krimigis, S. M. (APL), and Lanzerotti, L. J. (AT&T Bell Labs.), "The Extent and Symmetry of Shocks in the Outer Heliosphere," in *Proc. 22nd Int. Cosmic Ray Conf.*, Dublin, Ireland, Vol. 3, pp. 605-608 (Aug 1991).
- Goldhirsh, J. (APL), Krichevsky, V. (Micromat Res.), and Gebo, N. (APL), "Rain Rate Statistics and Fade Distributions at 20 and 30 GHz Derived from a Network of Rain Gauges in the Mid-Atlantic Coast Over a Five Year Period," *IEEE Trans. Antennas Propag.* **40**(11), 1408-1415 (Nov 1992).
- Hamill, B. W., and Gersh, J. R., "Decision-Making Performance in Rule-Based Supervisory Control: Empirical Development of a Cognitive Process Model," in *Proc. 1992 Symp. on Command and Control Res.*, Monterey, Calif., pp. 100-106 (1992).
- Henry, R. C., Murthy, J., Allen, M., and Corbin, M. (JHU), and Paxton, L. J. (APL), "Spectroscopy and Imaging of the Cosmic Diffuse UV Background Radiation," in *Proc. Int. Soc. Opt. Eng., Ultraviolet Technology IV*, SPIE, Bellingham, Wash., Vol. 1764, pp. 61-71 (1992).
- Huting, W. A., Warren, J. W., Garner, P. N., Jr., and Krill, J. A., "Circular Overmoded Waveguide for Shipboard Use," *Nav. Eng. J.* **105**(2), 39-52 (Mar 1993).
- Ishimoto, M. (Computational Physics, Inc.), Romick, G. J., Paxton, L. J., and Meng, C.-I. (APL), and Huffman, R. E. (Phillips Lab.), "Night UV Spectra (1100-2900Å) at Mid and Low Latitude During a Magnetic Storm," *Geophys. Res. Lett.* **19**(8), 813-816 (1992).
- Kalbaugh, D. V., "Optimal Search Among False Contacts," *SIAM J. Appl. Math.* **52**(6), 1722-1750 (Dec 1992).
- Kane, M., Mauk, B. H., Keath, E. P., and Krimigis, S. M., "Structure and Dynamics of the Uranian Magnetotail: Results from Hot Plasma and Magnetic Field Observations," *J. Geophys. Res.* **96**(A7), 11,485-11,499 (Jul 1991).
- Kim, B. F., Moorjani, K., Adrian, F. J., and Bohandy, J., "Magnetically Modulated Resistance Methods: Applications to Superconductors," in *Advances in Research and Applications, Studies of High Temperature Superconductors Series*, Narlikar, A. (ed.), Vol. 10, Nova Science Publishers, Inc., New York, pp. 63-95 (1992).
- Kinnison, J. D., Maurer, R. H., McKerracher, P. L., and Carkhuff, B. G., "A Summary of Recent VLSI SEU and Latchup Results," in *Proc. IEEE Radiation Effects Data Workshop*, New Orleans, La., pp. 12-15 (1992).
- Kistenmacher, T. J., and Bryden, W. A., "Comparative Influence of Bias and Nucleation Layer Thickness on the Heteroepitaxial Growth of InN on AlN-Nucleated (111) Silicon and (001) Sapphire," *Applied Phys. Lett.* **62**(11), 1221-1223 (1993).
- Kistenmacher, T. J., Ecelberger, S. A., and Bryden, W. A., "Initial Studies on the Heteroepitaxial Growth of Thin Films of Al_xIn_{1-x}N on AlN-Seeded (001) Sapphire by Single-Target Reactive Magnetron Sputtering," in *Proc. Materials Res. Soc. Symp.*, San Francisco, Calif., Vol. 263, pp. 95-100 (1992).
- Koontz, K. W., "Port Buffers: A Mach IPC Optimization for Handling Large Volumes of Small Messages," in *Proc. 3rd USENIX Mach. Symp.*, Santa Fe, N. M., pp. 89-102 (1993).
- Lanzerotti, L. J. (AT&T Bell Labs.), Gold, R. E. (APL), Thomson, D. J. (AT&T Bell Labs.), Decker, R. E. (APL), MacLennan, C. G. (AT&T Bell Labs.), and Krimigis, S. M. (APL), "Statistical Properties of Shock-Accelerated Ions in the Outer Heliosphere," *Astrophys. J.* **380**, L93-L96 (Oct 1991).
- Lanzerotti, L. J., MacLennan, C. G., and White, P. J. (AT&T Bell Labs.), Gold, R. E., and Roelof, E. C. (APL), Simnett, G. M. (Univ. Birmingham, UK), Hawkins, S. E. (APL), Anderson, K. A. (Space Sci. Lab., Univ. Calif., Berkeley), Armstrong, T. P. (Univ. Kansas), Lin, R. P. (Space Sci. Lab., Univ. Calif., Berkeley), Krimigis, S. M. (APL), Pick, M. (Observatoire de Paris, France), and Sarris, E. T. (Univ. Thrace, Greece), "Low Energy Ion and Electron Measurements of the March-April 1991 Solar Events by Ulysses," in *Proc. 22nd Int. Cosmic Ray Conf.*, Dublin, Ireland, Vol. 3, 181-184 (Aug 1991).
- Lui, A. T. Y., McEntire, R. W., Sibeck, D. G., and Krimigis, S. M., "Recent Findings on Angular Distributions of Dayside Ring Current Energetic Ions," *J. Geophys. Res.* **95**(A12), 20,839-20,851 (1990).
- Maryak, J. L., and Asher, M. S., "Isolating Errors in Models of Complex Systems," *IEEE Trans. Aerosp. Electron. Syst.* **29**(2), 452-462 (Apr 1993).
- Menk, F. W., Fraser, B. J., and Hansen, H. J. (Univ. Newcastle, Australia), Newell, P. T., and Meng, C.-I. (APL), and Morris, R. J. (Antarctic Div., Kingston, Australia), "Identification of the Magnetospheric Cusp and Cleft Using Pc 1-2 ULF Pulsations," *J. Atmos. Terr. Phys.* **54**(7/8), 1021-1042 (1992).
- Neradka, V. F. (APL), and Ciarula, T. A. (U.S. Navy), "Tomahawk Nitrogen Pressurization Maintenance—Why?," *Nav. Eng. J.* **105**(2), 66-68 (Mar 1993).
- Paranicas, C. P., Cheng, A. F., Mauk, B. H., and Krimigis, S. M. (APL), and Armstrong, T. P. (NASA), "Ion Phase Space Densities in the Jovian Magnetosphere," *J. Geophys. Res.* **95**(A12), 20,833-20,838 (1990).
- Paranicas, C. P., Mauk, B. H., and Krimigis, S. M., "Pressure Anisotropy and Radial Stress Balance in the Jovian Neutral Sheet," *J. Geophys. Res.* **96**(A12), 21,135-21,140 (1991).

- Paschalidis, N. P., and Krimigis, S. M. (APL), Sarris, E. T. (Demokritos Univ. Thrace, Greece), Sibeck, D. B., and McEntire, R. W. (APL), Christon, S. P. (Univ. Maryland), and Zanetti, L. J. (APL), "Ion Burst Event in the Earth's Dayside Magnetosheath," *Geophys. Res. Lett.* **18**(3), 377-380 (1991).
- Paxton L. J., Meng, C.-I., Fountain, G. H., Ogorzalek, B. S., Darlington, E. H., Gary, S. A., Goldsten, J. O., Kusnierzewicz, D. Y., Lee, S. C., Linstrom, L. A., Maynard, J. J., Peacock, K., Persons, D. F., and Smith, B. E., "Special Sensor Ultraviolet Spectrographic Imager (SSUSI): An Instrument Description," in *Proc. Int. Soc. Opt. Eng., Instrumentation for Planetary and Terrestrial Atmospheric Remote Sensing*, SPIE, Bellingham, Wash., Vol. 1745, pp. 2-15 (1992).
- Paxton, L. J., Meng, C.-I., Fountain, G. H., Ogorzalek, B. S., Darlington, E. H., Gary, S. A., Goldsten, J. O., Kusnierzewicz, D. Y., Lee, S. C., Linstrom, L. A., Maynard, J. J., Peacock, K., Persons, D. F., and Smith, B. E. (APL), and Strickland, D. J., and Daniell, R. E. (Computational Physics, Inc.), "SSUSI: Horizon-to-Horizon and Limb-Viewing Spectrographic Imager for Remote Sensing of Environmental Parameters," in *Proc. Int. Soc. Opt. Eng., Ultraviolet Technology IV*, SPIE, Bellingham, Wash., Vol. 1764, pp. 161-176 (1992).
- Phillips, T. E., deHaas, N., Goodwin, P. G., and Benson, R. C., "Silver-Induced Volatile Species Generation from Conductive Die Attach Adhesives," *IEEE Trans. Compon., Hybrids, Manuf. Technol.* **15** (6), 956-963 (Dec 1992).
- Robinson, R. (Space Sci. Lab., Lockheed), Dabbs, T., and Vickery, J. (SRI Int.), Eastes, R., Del Greco, F., and Huffman, R. (Phillips Lab.), Meng, C.-I. (APL), and Daniell, R., and Strickland, D. (Computational Physics, Inc.), and Vondrak, R. (Space Sci. Lab., Lockheed), "Coordinated Measurements Made by the Sondestrom Radar and the Polar Bear Ultraviolet Imager," *J. Geophys. Res.* **97**(A3), 2863-2871 (1992).
- Ross, M. N., and Christensen, A. B. (Aerospace Corp.), and Meng, C.-I., and Carbay, J. F. (APL), "Structure in the UV Nightglow Observed from Low Earth Orbit," *Geophys. Res. Lett.* **19**(10), 985-988 (1992).
- Sarabun, C. C., "Observations of a Chesapeake Bay Tidal Front," *Estuaries* **16**(1), 68-73 (1993).
- Spall, J. C., "The Distribution of Nonstationary Autoregressive Processes Under General Noise Conditions," *J. Time Series Analysis* **14**(3), 317-330 (1993).
- Spicer, J. W. M., Bevan, M. G., Kerns, W. D., and Feldmesser, H. S., "Thermal Characterization of Heat Sink Adhesive Systems for Spacecraft Electronics by Time-Resolved Infrared Radiometry," *J. Electronic Packaging* **115**, 101-105 (Mar 1993).
- Spicer, J. W. M., Kerns, W. D., Aamodt, L. C., and Murphy, J. C., "Characterization of Hidden Airframe Corrosion by Time-Resolved Infrared Radiometry (TRIR)," in *Proc. Rev. of Progress in Quantitative Nondestructive Evaluation*, Thompson, D. O., and Chimenti, D. E. (eds.), Vol. 12, Plenum Press, New York, pp. 2027-2034 (1993).
- Spicer, J. W. M., Kerns, W. D., Aamodt, L. C., Osiander, R., and Murphy, J. C., "Time-Resolved Infrared Radiometry (TRIR) Using a Focalplane Array for Characterization of Hidden Corrosion," in *Proc. Thermosense 15: An Int. Conf. on Thermal Sensing and Imaging Diagnostic Applications*, SPIE, Bellingham, Wash., Vol. 1933, pp. 148-159 (1993).
- Srinivasan, R., and Murphy, J. C., "Technical Note: Analysis of Pulse Height in the Presence of Noise: Applications to Cathodic Protection," *J. Sci. and Eng. Corrosion* **49**(2), 94-98 (Feb 1993).
- Stapor, W. J., and Meyers, J. (NRL), and Kinnison, J. D., and Carkhuff, B. G. (APL), "Low-Dose Space Estimates for VLSI Devices Using Linear System Theory," *IEEE Trans. Nucl. Sci.* **39**(6), 1876-1882 (Dec 1992).
- Stone, E. C. (Calif. Inst. Technol.), Burlaga, L. F. (GSFC), Cummings, A. C. (Calif. Inst. Technol.), Feldman, W. C. (Los Alamos National Lab.), Frain, W. F. (APL), Geiss, J. (Physikalisches Inst.), Gloeckler, G. (Univ. Maryland), Gold, R. E. (APL), Hovestadt, D. (Max Planck Inst.), Krimigis, S. M. (APL), Mason, G. M. (Univ. Maryland), McComas, D. (Los Alamos National Lab.), Mewaldt, R. A. (Calif. Inst. Technol.), Simpson, J. A. (Univ. Chicago), von Rosenvinge, T. T. (GSFC), and Wiedenbeck, M. E. (Univ. Chicago), "The Advanced Composition Explorer," in *Proc. AIP Conf.*, Jones, W. V., Kerr, F. J., and Ormes, J. F. (eds.), Vol. 203, pp. 48-57 (1990).
- Strickland, D. J., and Link, R. (Computational Physics, Inc.), and Paxton, L. J. (APL), "FUV Remote Sensing of Thermospheric Composition and the Solar EUV Flux," in *Proc. Int. Soc. Opt. Eng., Ultraviolet Technology IV*, SPIE, Bellingham, Wash., Vol. 1764, pp. 117-131 (1992).
- Thompson, D. R., and Chapman, R. D., "Note on the Reduction of the 'Full-Wave' Method for Rough Surface Scattering to the Small-Height Limit," *J. Geophys. Res.* **98**(C3), 4827-4831 (1993).
- Venkatesan, D. (Univ. Calgary), Decker, R. B., and Krimigis, S. M. (APL), Mathews, T. (Univ. Calgary), and Sarris, E. T. (Demokritos Univ. Thrace, Greece), "The Great Forbush Decrease of March 1989 and the Interplanetary Energetic Particle Environment," in *Proc. 21st Int. Cosmic Ray Conf.*, Adelaide, Australia, Vol. 6, pp. 247-250 (1990).
- Venkatesan, D. (Univ. Calgary), and Krimigis, S. M. (APL), "Into the Night Between the Stars," *Astronomy Magazine* **18**, 42-47 (Feb 1990).
- Williams, K. E., "PCOP: A System for Long-Term Satellite Ephemeris Predictions," in *Proc. AAS/AIAA Space Flight Mechanics Meeting*, AAS-93-115, Pasadena, Calif., pp. 1-15 (1993).
- Williams, K. E., "Long-Term Ephemeris Predictions for Non-Drag-Compensated Satellites in Low Earth Orbit," in *Proc. 31st Aerospace Sci. Meeting*, AIAA 93-0040, Reno, Nev., pp. 1-5 (1993).
- Williams, K. E., Strikwerda, T. E., Fisher, H. L., and Strohbehn, K. (APL), and Edwards, T. G. (Univ. Maryland), "Design Study Parallel Architectures for Autonomous Star Pattern Identification and Tracking," in *Proc. AAS/AIAA Space Flight Mechanics Meeting*, AAS 93-102, Pasadena, Calif., pp. 1-15 (1993).
- Winters, K. B. (Univ. Washington), and Rouseff, D. (APL), "Tomographic Reconstruction of Stratified Fluid Flow," *IEEE Trans. Ultrasonics, Ferroelectrics, and Frequency Control* **40**(1), 26-33 (Jan 1993).
- Yoon, S., Smith, W. F., Yoo, M., and deLozanne, A. L. (Univ. Texas, Austin), Fainchtein, R., and Kistenmacher, T. J. (APL), and D'Arcangelis, S. T., and Cowan, D. O. (JHU), "Anisotropy in the bc Plane of the Organic Superconductor κ -(BEDT-TTF)₂Cu(NCS)₂ Revealed by Scanning Tunneling Microscopy and Atomic Force Microscopy," *Phys. Rev. B* **47**(8), 4802-4805 (Feb 1993).

PRESENTATIONS

- Bryden, W. A. (APL), Hawley, M. E. (Los Alamos National Lab.), Ecelberger, S. A., and Kistenmacher, T. J. (APL), "Growth Morphology of InN Thin Films on AlN-Nucleated (001) Sapphire by Scanning Tunneling and Atomic Force Microscopies," Spring Meeting Materials Research Society, San Francisco, Calif. (12-16 Apr 1993).
- Chin, D. C., "Performance of Several Stochastic Approximation Algorithms in the Multivariate Kieffowitz Setting," 25th Symp. on the Interface of Computing Science and Statistics, San Diego, Calif. (14-17 Apr 1993).
- Devereux, W. S., and Reed, C. L. B., "GPS/Telemetry Transmitter (GTT) System (An Innovative, Unique, Small, Flight-Qualified Application of Embedded COMSEC Utilized in a Rapidly Changing R&D Environment)," INFOSEC for Space Systems Symp.: "Planning for the Future," Aerospace Corp., Los Angeles, Calif. (16-18 Mar 1993).
- Ehrlich, L. W., and Silver, D. M., "Some Experience Using Modifications of Conjugate Gradient on a Nonsymmetric Complex Linear System from a 3-D Helmholtz Equation," 40th Anniversary Meeting SIAM, Los Angeles, Calif. (20-24 Jul 1992).
- Hoffman, E. J., "Cost-Effective Space Mission Design at the Applied Physics Laboratory," Plenary Panel on Cost-Effective Spacecraft Design, Irvine, Calif. (16 Feb 1993).
- Kistenmacher, T. J., "Fabrication, Characterization, and Linear and Nonlinear Optoelectronic Device Applications of Thin Films of the Group IIIA Nitrides," 4th Navy R&D Information Exchange Conf., San Diego, Calif. (13-15 Apr 1993).
- Loesch, J. E., "Total Quality and Benchmarking in Facilities Management," Baltimore Chapter Int. Facilities Management

- Association, JHU/APL, Laurel, Md. (21 Apr 1993).
- Lucero, E. F., "Overview of Technical Challenges of Reentry Analysis of Radioisotope Heat Sources," AIAA 31st Aerospace Sciences Meeting & Exhibit, Reno, Nev. (11-14 Jan 1993).
- Peck, A., "Basic Graphic Design for Technical Communicators," Society for Technical Communication, Baltimore (11 May 1993).
- Spicer, J. W. M., Kerns, W. D., Aamodt, L. C., Osiander, R., and Murphy, J. C., "Time-Resolved Infrared Radiometry (TRIR) Using a Focalplane Array for Characterization of Hidden Corrosion," Thermosense 15: An Int. Conf. on Thermal Sensing and Imaging Diagnostic Applications, Orlando, Fla. (14-16 Apr 1993).
- Srinivasan, R. (APL), and Gopalan, P. (JHU), "STM Studies on Electrochemically Condensed Adenine Layers on Graphite," 183rd Meeting Electrochemical Society, Honolulu, Hawaii (16-21 May 1993).
- Srinivasan, R., and Murphy, J. C. (APL), Schroebel, C. B. (JHU), and Zarriello, P. R. (APL), "Corrosion Rate Measurements Under Cathodic Polarization by Faradaic Rectification," 183rd Meeting Electrochemical Society, Honolulu, Hawaii (16-21 May 1993).
- Thomas, M. E., and Tropf, W. J., "Optical Properties of Intrinsic Diamond and Experimental Emissivity of CVD Diamond," Workshop on Characterizing Diamond Films II, NIST, Gaithersburg, Md. (24-25 Feb 1993).
- Urban, T. S., "Robust Missile Guidance Filtering," SAE Aerospace Control and Guidance Systems Committee, Reno, Nev. (10 Mar 1993).
- Wickenden, D. K. (APL), Wickenden, A. E. (JHU and APL), and Bryden, W. A. (APL), "GaN Contacts for n-Type SiC," Tri-Ser-
 vice SiC Workshop, Washington, D. C. (14 May 1993).
- The following papers were presented at the Test Technology Symp. 6, JHU/APL, Laurel, Md. (30 Mar-1 Apr 1993):
- Gearhart, S. A., Elko, M. J., Harris, T. J., Kardian, C. J., Mitchell, C. A., and O'Bannon, T. E., "A Hardware-in-the-Loop Test Facility for Dual-Mode Infrared and Radar Guidance Systems."
- Howser, L. M., Vogel, K. K., and Tropf, W. J., "Design, Validation, and Use of an Infrared Seeker Simulation."
- Maryak, J. L., "Model-Based Fault Detection and Isolation in Complex Systems."
- Spall, J. C., "Adaptive Control of Stochastic Nonlinear Systems."
- The following papers were presented at the American Physical Society Meeting, Seattle, Wash. (22-26 Mar 1993):
- Bryden, W. A., Ecelberger, S. A., and Kistenmacher, T. J., "Growth and Characterization of InN in an UHV Sputtering System."
- Giordana, A., and Gaskill, D. K. (NRL), Wickenden, D. K. (APL), and Wickenden, A. E. (JHU & APL), "Modulated Reflectance and Absorption Characterization of MOCVD Single Crystal GaN Films."
- Miragliotta, J., Bryden, W. A., Kistenmacher, T. J., and Wickenden, D. K., "Nonlinear Optical Investigations of GaN Thin Films on Sapphire."
- Wickenden, D. K. (APL), Wickenden, A. E. (JHU and APL), and Kistenmacher, T. J. (APL), "Growth and Characterization of Twinned GaN on (0001)-Oriented Sapphire."
- Wickenden, A. E. (JHU and APL), Wickenden, D. K., and Kistenmacher, T. J. (APL), Kaplan, R. (NRL), and Pazik, J. (ONR), "The Effect of Annealing on GaN Nucleation Layers on (0001)-Oriented Sapphire."

COLLOQUIA

- 5 Mar 1993: "Asteroid and Comet Impact Hazards and Potential Mitigation Methods," J. D. G. Rather, NASA Headquarters.
- 12 Mar: "Scientific Results from the Hopkins Ultraviolet Telescope," A. F. Davidsen, JHU.
- 19 Mar: "The Physics of Baseball," R. K. Adair, Yale University.
- 26 Mar: "Thin Film Diamond Devices and Diamond Transistors," M. W. Geis, MIT Lincoln Laboratory.
- 2 Apr: "Interactions of Social Science and Public Policy," E. Chelimsky, Government Accounting Office.
- 9 Apr: "Policy Options for Managing the Greenhouse Problem," J. Darmstadter, Resources for the Future.
- 16 Apr: "Intelligent Vehicle-Highway Systems," H. N. Koutsopoulos, MIT.
- 23 Apr: "Electrospray Mass Spectrometry: Wings for Molecular Elephants," J. B. Fenn, Yale University.
- 30 Apr: "Virtual Reality: Applications, Requirements, and Promise," D. R. Baum, Hughes Aircraft-Hughes Training, Inc.
- 7 May: "The Nonlinear Optics of Organic Systems," A. F. Garito, University of Pennsylvania.
- 14 May: "Present Status of Solar Neutrino Observations and Plans for New Experiments," K. Lande, University of Pennsylvania.
- 21 May: "The NASA Galileo Program: Mission to Jupiter," D. J. Williams, APL.
- 28 May: "Earthquake Hazards in Eastern North America and the Recent Earthquake Sequence Near Columbia, MD," K. H. Jacob and L. Seeber, Lamont-Doherty Observatory, Columbia University.