

PUBLICATIONS

APL staff members were authors or co-authors of the following unclassified books and technical articles that were recently published:

- Anderson, B. J., "Statistical Studies of Pc 3-5 Pulsations and Their Relevance for Possible Source Mechanisms of ULF Waves," *Ann. Geophysicae* **11**, 128-143 (1993).
- Anderson, B. J. (APL), and Fuselier, S. A. (Lockheed), "Magnetic Pulsations from 0.1 to 4.0 Hz and Associated Plasma Properties in the Earth's Subsolar Magnetosheath and Plasma Depletion Layer," *J. Geophys. Res.* **98**(A2), 1461-1479 (Feb 1993).
- Anderson, B. J., Potemra, T. A., Bythrow, P. F., Zanetti, L. J., and Holland, D. B. (APL), and Winningham, J. D. (Southwest Res. Inst.), "Auroral Currents During the Magnetic Storm of November 8 and 9, 1991: Observations from the Upper Atmosphere Research Satellite Particle Environment Monitor," *Geophys. Res. Lett.* **20**, 1327-1330 (1993).
- Bardens, W. H. (Beckman Industrial Group), and Phillips, T. E., and Benson, R. C. (APL), "Effects of Process Variables on Moisture in Hermetic Packages Containing Organic Adhesives," in *Proc. RL/NIST Workshop on Moisture Measurement and Control for Microelectronics*, Gaithersburg, Md., pp. 249-261 (Apr 1993).
- Bevan, M. G., "Effect of Surface Condition and Conformal Coating on Solder Joint Fatigue Life," in *Proc. Electronic Packaging Reliability-EEP*, ASME, Vol. 6, New Orleans, La., pp. 1-7 (1993).
- Blum, B. I., "Characterizing the Software Process," *Information and Decision Technologies* **19**, 215-232 (1994).
- Blum, B. I. (APL), and Moore, T. (NSWC), "Representing Navy Tactical Computer System Knowledge for Reengineering and Integration," *J. Systems Integration* **3**(3&4), 331-349 (Sep 1993).
- Donohue, D. J. (APL), and Zank, G. P. (Univ. Delaware), "Steady State and Dynamical Structure of a Cosmic-Ray-Modified Termination Shock," *J. Geophys. Res.* **98**(11), 19,005-19,025 (Nov 1993).
- Dudney, J. R. (British Antarctic Survey, UK), Baker, K. B. (APL), Stoker, P. H. (Potchefstroom Univ. for Christian Higher Education, Republic South Africa), and Walker, A. D. M. (Univ. Natal, Republic South Africa), "The Southern Hemisphere Auroral Radar Experiment (SHARE)," *Antarctic Sci.* **6**(1), 123-124 (1994).
- Enterline, J. P., and Lenhard, R. E. (JHMI), Blum, B. I. (APL), and Majidi, F. M., and Stuart, G. J. (JHMI), "OCIS: 15 Years' Experience With Patient-Centered Computing," *M. D. Comput.* **11**(2), 83-91 (1994).
- Erlanson, R. E. (APL), and Aggson, T. L., Hoge, W. R., and Slavin, J. A. (NASA/GSFC), "Simultaneous Observations of Subauroral Electron Temperature Enhancements and Electromagnetic Ion Cyclotron Waves," *Geophys. Res. Lett.* **20**(16), 1723-1726 (1993).
- Iijima, T., and Watanabe, W. (Univ. Tokyo), Potemra, T. A., and Zanetti, L. J. (APL), and Kan, J. R., and Akasofu, S.-I. (Univ. Alaska), "Substorm Currents in the Equatorial Magnetotail," *J. Geophys. Res.* **98**, 17,283-17,298 (1993).
- Jette, A. N., and Benson, R. C., "Modeling of Pulsed-Laser Cleaning of Metal Optical Surfaces at Cryogenic Temperatures," *J. Appl. Phys.* **75**(6), 3130-3141 (Mar 1994).
- Korotova, G. I. (Izmiran, Russia), and Sibeck, D. G. (APL), "Generation of ULF Magnetic Pulsations in Response to Sudden Variations in Solar Wind Dynamic Pressure," *Solar Wind Sources of Magnetospheric Ultra-Low-Frequency Waves, Geophysical Monograph* **81**, Englebreton, M. (ed.), AGU, pp. 265-271 (1994).
- Koschorke, G.-M. (JHMI), Meyer, R. A. (APL), and Campbell, J. N. (JHMI), "Cellular Components Necessary for Mechano-electrical Transduction Are Conveyed to Primary Afferent Terminals by Fast Axonal Transport," *Brain Res.* **641**, 99-104 (1994).
- Krimigis, S. M., "The Future of Space Exploration and Utilization in the Post-Cold War World," in *Proc. 3rd Olympiad of the Mind, Int. S.T.E.P.S. Foundation, Vol. III*, Andover, Mass., p. 1231 (Jun 1993).
- , "Energetic Particle Instruments," in *Proc. Small Instruments Workshop for Space Physics*, B.T. Tsurutani (ed.), Pasadena, Calif., pp. 4-1 thru 4-2 (Mar 1993).
- Lin, C. C., and Reilly, J. P., "Radar Terrain Clutter Model with Consideration of Propagation Effects," in *Proc. 23rd European Microwave Conf.*, Madrid, Spain, pp. 478-482 (Sep 1993).
- Loesch, J. E., "Asset Management, Facilities Audit/Budgeting Tool," in *Proc. 1994 Best Practices Forum*, IFMA, Houston, Tex., pp. 29-54 (Apr 1994).
- Lopez, R. E. (Univ. Maryland), Koskinen, H. E. J., and Pulkkinen, T. I. (Finnish Meteorological Inst.), Bosinger, T. (Univ. Oulu, Finland), and McEntire, R. W., and Potemra, T. A. (APL), "Simultaneous Observation of the Poleward Expansion of Substorm Electrojet Activity and the Tailward Expansion of Current Sheet Disruption in the Near-Earth Magnetotail," *J. Geophys. Res.* **98**, 9285-9295 (1993).
- Lui, A. T. Y., "Radial Transport of Storm Time Ring Current Ions," *J. Geophys. Res.* **98**(A1), 209-214 (Jan 1993).
- Lui, A. T. Y. (APL), Yoon, P. H. (Univ. Maryland), and Chang, C.-L. (SAIC), "Quasi-Linear Analysis of Ion Weibel Instability in the Earth's Neutral Sheet," *J. Geophys. Res.* **98**(A1), 153-163 (Jan 1993).
- Mauk, B. H. (APL), and McIlwain, C. E. (Univ. Calif.), "Magnetic Field-Aligned Electrostatics of Alfvén/Ion Cyclotron Waves," *J. Geophys. Res.* **98**(A11), 19,435-19,441 (Nov 1993).
- Newell, P. T., and Meng, C.-I., "Ionospheric Projections of Magnetospheric Regions Under Low and High Solar Wind Pressure Conditions," *J. Geophys. Res.* **99**, 273-286 (1994).
- Newell, P. T., and Sibeck, D. G., "Upper Limits on the Contribution of Flux Transfer Events to Ionospheric Convection," *Geophys. Res. Lett.* **20**, 2829-2832 (1993).
- , "By Fluctuations in the Magnetosheath and Azimuthal Flow Velocity Transients in the Dayside Ionosphere," *Geophys. Res. Lett.* **20**, 1719-1722 (1993).
- Nielsen, E. (Max-Planck Inst., Germany), Elphinstone, R., Hearn, D., and Murphree, J. J. (Univ. Calgary), and Potemra, T. A. (APL), "Oval Intensification Event Observed by STARE and Viking," *J. Geophys. Res.* **98**, 6163-6171 (1993).
- Ohtani, S., "On the Tailward Expansion of Current Disruption During Substorms," *Adv. Space Res.* **13**(4), (4)265-(4)268 (1993).
- Ohtani, S., Anderson, B. J., Sibeck, D. G., Newell, P. T., Zanetti, L. J., and Potemra, T. A. (APL), Takahashi, K. (Nagoya Univ.), Lopez, R. E. (Univ. Maryland), Angelopoulos, V. (UCLA), Nakamura, R. (GSFC), Klumpar, D. M. (Lockheed), and Russell, C. T. (UCLA), "A Multisatellite Study of a Pseudo-Substorm Onset in the Near-Earth Magnetotail," *J. Geophys. Res.* **98**(A11), 19,355-19,367 (Nov 1993).
- Ohtani, S. (APL), and Tamao, T. (Univ. Tokyo), "Does the Ballooning Instability Trigger Substorms in the Near-Earth Magnetotail?" *J. Geophys. Res.* **98**(A11), 19,369-19,379 (Nov 1993).
- Osiander, R., Spicer, J. W. M., and Murphy, J. C., "Thermal Imaging of Subsurface Microwave Absorbers in Dielectric Materials," in *Proc. SPIE, Thermosense XVI*, J. R. Snell (ed.), Vol. 2245, pp. 111-119 (1994).
- Pascalidis, N. P., and Andreou, A. G. (APL), Sarris, E. T. (Univ. Thrace), and Krimigis, S. M. (APL), "Application Specific Integrated Circuits (ASICs) for Particle Measurements in Space Using Solid State Detectors," in *Proc. Small Instruments Workshop for Space Physics*, B.T. Tsurutani (ed.), Pasadena, Calif., pp. 4-42 thru 4-49 (29-31 Mar 1993).
- Pisacane, V. L., and Moore, R. C. (eds.), *Fundamentals of Space Systems*, Oxford University Press, New York (1994):
- Pisacane, V. L., Chap. 1, "Space Systems Engineering,"
 - Mitchell, D. G., Chap. 2, "The Space Environment,"
 - Black, H. D., and Pisacane, V. L., Chap. 3, "Astrodynamics,"
 - Pisacane, V. L., Chap. 4, "Spacecraft Propulsion, Flight Mechanics, and Launch Systems,"
 - Shuster, M. D., Chap. 5, "Spacecraft Attitude Determination and Control,"
 - Sullivan, R. M., Chap. 6, "Space Power Systems,"
 - Wingate, C. A., Chap. 7, "Spacecraft Thermal Control,"
 - Skullney, W. E., Chap. 8, "Spacecraft Configuration and Structural Design,"
 - Hoffman, E. J., Chap. 9, "Space Communications,"
 - Moore, R. C., Chap. 10, "Spacecraft Command and Telemetry,"

- Moore, R. C., Chap. 11, "Spacecraft Data Processing,"
- Maurer, R. H., Chap. 12, "Spacecraft Reliability and Quality Assurance,"
- Peterson, M. R., Chap. 13, "Spacecraft Integration and Test,"
- Pisacane, V. L., Chap. 14, "Mission Operations."
- Reilly, J. P., "Neuroelectric Principles," in *The Electrical Engineering Handbook*, Chap. 103.1, Dorf, R. C. (ed.), CRC Press, Boca Raton, Fla., pp. 2301-2311 (1993).
- , "Safety Considerations Concerning the Minimum Threshold for Magnetic Excitation of the Heart," *Med. & Biol. Eng. & Comput.* **31**, 651-654 (1993).
- Reilly, J. P., and Snelling, W. E., "Short-Range Sea Clutter in Horizon Search Radar Systems: Antenna Pattern Effects," in *IEE Proc.-F* **140**(5), 309-315 (1993).
- Reynolds, E. L., and Schaefer, E. (APL), Polansky, G., and Lacy, J. (Phillips Lab.), and Bocharov, A. (CDBMB, Inertek, Russia), "Utilizing a Russian Space Nuclear Reactor for a United States Space Mission: Systems Integration Issues," in *Proc. 11th Symp. Space Nuclear Power and Propulsion*, AIP, Albuquerque, N.M., pp. 265-273 (1994).
- Roelof, E. C., and Sibeck, D. G., "Magnetopause Shape as a Bivariate Function of Interplanetary Magnetic Field B_z and Solar Wind Dynamic Pressure," *J. Geophys. Res.* **98**, 21,421-21,450 (1993).
- Rust, D. M., "Solar Storms and Manned Exploration of Deep Space," *Griffith Observer* **57**, 2-10 (1993).
- , "Origins and Effects of Solar Flares," in *Biological Effects and Physics of Solar and Galactic Cosmic Radiation*, C. E. Swenberg, G. Horneck and E. G. Stassinopoulos (eds.), Plenum, New York (1993).
- , "Solar Flare Prediction Needed," *EOS Trans.* **74**(47) (Nov 1993).
- , "The Flare Genesis Project," *Adv. Space Res.* **14**(2), 89-93 (1994).
- , "Spawning and Shedding Helical Magnetic Fields in the Solar Atmosphere," *Geophys. Res. Lett.* **21**, 241-244 (1994).
- Rust, D. M., and Thompson, K. E., "An Integrated Imaging Detector of Polarization and Spectral Content," *Remote Sens. Rev.* **8**, 215-225, 1993.
- Sibeck, D. G., "Transient Magnetic Field Signatures at High Latitudes," *J. Geophys. Res.* **98**, 243-256 (1993).
- Srinivasan, R., and Gopalan, P., "Order and Stability of an Electrochemically Condensed Adenine Layer on Graphite," *J. Phys. Chem.* **97**(34), 8770-8775 (1993).
- Strohbehm, K., Rust, D. M., Andreou, A. G., and Jenkins, R. E., "A Biologically-Inspired Image Position Sensor," in *Real-Time and Post-Facto Solar Image Correction*, *Proc. 13th Sacramento Peak Summer Workshop*, R. Radick (ed.), National Solar Observatory, Sunspot, N.M. (1992).
- Vetter, J. R. (APL), Nerem, S. (NASA), Cefola, P. J. (CSDL), and Hagar, T. (Inst. Def. Analysis), "A Historical Survey of Earth Gravitational Models Used in Astrodynamics from Sputnik and TRANSIT to GPS and Topex," in *Advances in Astronautical Sciences*, Vol. 85, AAS/AIAA, Victoria, BC (1994).
- Villanueva, L. (MIT), McNutt, R. L., Jr., (APL), Lazarus, A. J., and Steinberg, J. T. (MIT), "Voyager Observations of O^{+6} and Other Minor Ions in the Solar Wind," *J. Geophys. Res.* **99**(A2), 2553-2565 (1994).
- Vogelsang, H. (Univ. Göttingen), Lühr, H. (Univ. Braunschweig), Woelker, H. (Univ. Göttingen), Woch, J. (Swedish Inst. Space Phys.), Böisinger, T. (Univ. Oulu, Finland), Potemra, T. A. (APL), and Lindqvist, P.-A. (Royal Inst. Tech., Stockholm), "An Ionospheric Travelling Connection Vortex Event Observed by Ground-Based Magnetometers and by Viking," *Geophys. Res. Lett.* **20**, 2343 (1993).
- Walther, D. W., and Sonnerup, B. U. O. (Dartmouth), Paschmann, G. (Max-Planck Inst.), Lühr, H. (Technische Universität Braunschweig), Klumpp, D. (Lockheed), and Potemra, T. A. (APL), "Remote Sensing of Two-Dimensional Magnetopause Structures," *J. Geophys. Res.* **98**, 1489-1504 (1993).
- Williams, D. J., McEntire, R. W., Schlemm, II, C., and Lui, A. T. Y. (APL), Gloeckler, G., Christon, S. P., and Gliem, F. (Univ. Maryland), "GEOTAIL Energetic Particles and Ion Composition Instrument," *J. Geomag. Geoelectr.* **46**, 39-57 (1994).
- Winningham, J. D., Sharber, J. R., Frahm, R. A., Burch, J. L., Eaker, N., Black, R. K., Blevins, V. A., Andrews, J. P., Rudzki, J., and Sablik, M. J., (Southwest Res. Inst.), Chenette, D. L., Datlowe, D. W., Gaines, E. E., Imhof, W. I., Nightingale, R. W., Reagan, J. B., Robinson, R. M., Schumaker, T. L., Shelley, E. G., Vondrak, R. R., and Voss, H. D. (Lockheed), Bythrow, P. F., Anderson, B. J., Potemra, T. A., Zanetti, L. J., and Holland, D. B. (APL), Rees, M. H., and Lummerzheim, D. (Univ. Alaska), Reid, G. C. (NOAA), Roble, R. G. (National Center for Atmospheric Res.), and Clauer, C. R., and Banks, P. M. (Univ. Michigan), "The UARS Particle Environment Monitor," *J. Geophys. Res.* **98**, 10,649-10,666 (1993).
- Woch, J., Yamauchi, M., and Lundin, R. (Swedish Inst. Space Phys.), and Potemra, T. A., and Zanetti, L. J. (APL), "The Low-Latitude Boundary Layer at Mid-Altitudes: Relation to Large-Scale Birkeland Currents," *Geophys. Res. Lett.* **20**, 2251-2254 (1993).
- Yamamoto, T., and Makita, K. (National Inst. Polar Res.), and Meng, C.-I. (APL), "A Particle Simulation of 'Giant' Undulations on the Evening Diffuse Auroral Boundary," *J. Geophys. Res.* **96**, 5785-5800 (1993).
- Photothermal Phenomena, Guadeloupe (French Part) (22-25 Jan 1994).
- Benson, R. C., "Conductive Adhesives for MCM Interconnect," *Advanced Materials Workshop*, Ojai, Calif. (22-24 Feb 1994).
- Blum, B. I., "The Software Process: A Taxonomy of Design Methods," Seminar Faculty of Informatics, Madrid, Spain (28 Feb-1 Mar 1994).
- , "The Evolution of Software Engineering," 19th Int. Symp. on Computational Systems, Monterey, Mexico (24-26 Feb 1994).
- Christens-Barry, W. A., "A 2-D Encoding Scheme for Optical DNA Sequence Correlators," National Optics Inst. of Canada Meeting, Ste. Foy, Quebec, Canada (6-7 Aug 1993).
- Decker, R. B., Krimigis, S. M., and McNutt, R. L., "Latitude-Associated Differences in Low Energy Charged Particle Activity at Voyagers 1 and 2 in 1991 to Early 1994," 28th ESLAB Symp. on the High Latitude Heliosphere, Friedrichshafen, Germany (20 Apr 1994).
- Farrell, R. A., Stoyanov, B. J., Freund, D. E., and Bird, J. F., "Variational Scattering Techniques," Workshop on the Electromagnetics of Combat Induced Atmospheric Obscurants, El Paso, Tex. (2-4 Nov 1993).
- Freund, D. E., McCally, R. L., and Farrell, R. A., "Light Scattering from Assemblies of Scatterers: Applications to the Cornea of the Eye," Workshop on the Electromagnetics of Combat Induced Atmospheric Obscurants, El Paso, Tex. (2-4 Nov 1993).
- Gieszl, L. R., and Spiegel, R. F., "Group Systems for Warfare (Systems) Analysis," 5th Annual Group Systems Users Conf., Tucson, Ariz. (14-16 Mar 1994).
- Jette, A. N., and Benson, R. C., "Modeling of Pulsed-Laser Cleaning of Metal Optical Surfaces at Cryogenic Temperatures," 1994 March Meeting of the American Physical Society, Pittsburgh, Pa. (21-25 Mar 1994).
- Kane, M., Decker, R. B., Mauk, B. H., and Krimigis, S. M., "Characteristics of Shock Associated >30 KeV Ion Anisotropies and Their Latitudinal and Radial Variation at Voyagers 1 and 2," 28th ESLAB Symp. on The High Latitude Heliosphere, Friedrichshafen, Germany (20 Apr 1994).
- Kues, H. A., "Absence of Comparable Ocular Effects in Animals Exposed to Pulsed Microwave Radiation from Two Separate Systems," Bioelectromagnetics Meeting, Los Angeles, Calif. (16 Jan 1993).
- , "Update of Microwave-Induced Ocular Effects," Health and Safety Lecture on Microwave Radiation, Los Angeles, Calif. (17 Jun 1993).
- McCally, R. L. (APL), and Connolly, P. J., Jain, S., and Azar, D. (JHMI), "Objective Measurements of Haze Following Therapeutic Excimer Laser Ablation of Cornea," OE-LASE Symp., Los Angeles, Calif. (22-29 Jan 1994).
- McCally, R. L. (APL), and Jain, S., Smith, J., Hahn, T. W., Chen, W., and Azar, D. T. (JHMI), "Evaluation of the Role of DNA

PRESENTATIONS

APL staff members were among those who gave the following unclassified presentations:

- Aamodt, L. C., and Murphy, J. C., "The Temperature Profile in Weakly Absorbing Materials During Irradiation," 8th Int. Topical Meeting on Photoacoustic and

- Damage in Producing Corneal Haze Following 193-nm Excimer Laser Keratectomy Using Photoreactivating Light," 5th Annual Wilmer Res. Meeting, Baltimore, Md. (8 Apr 1994).
- McNutt, Jr., R. L., Krimigis, S. M., Cheng, A. F., Gold, R. E., Farquhar, R. W., Roelof, E. C., Coughlin, T. B., Santo, A., Bokulic, R. S., Reynolds, E. L., Williams, B. D., and Wiley, C. E., "Mission to the Sun: The Solar Pioneer," IAA Int. Conf. on Low-Cost Planetary Missions, Kosiakoff Center, Laurel, Md. (12 Apr 1994).
- Meyer, R. A., "Nonadrenergic Excitation of Cutaneous Nociceptors Two Weeks After Ligation of Spinal Nerve L₇ in Monkey," Symp. on Mediators in Nociception, Mainz, Germany (29 Aug-1 Sep 1993).
- Miragliotta, J. A., Bryden, W. A., Kistenmacher, T. J., and Wickenden, D. K., "Tunable Second-Harmonic Studies of GaN Films Near the Fundamental Band Edge," Spring Meeting of the Materials Research Society, San Francisco, Calif. (4-9 Apr 1994).
- Moorjani, K., Bohandy, J., and Kim, B., "Phase Separation, Granularity and Weak Links in High Temperature Superconductors," Colloquium, Department of Physics, Catholic University, Washington, D.C. (21 Apr 1994).
- Osiander, R., Spicer, J. W. M., and Murphy, J. C., "Thermal Imaging of Subsurface Microwave Absorbers in Dielectric Materials," SPIE, Thermosense XVI, Orlando, Fla. (6-8 Apr 1994).
- Spicer, J. W. M., Osiander, R., Aamodt, L. C., and Murphy, J. C. "Characterization of Back Surface Morphology for Corrosion Detection Using Patterned Heat Sources," 8th Int. Topical Meeting on Photoacoustic and Photothermal Phenomena, Guadeloupe (French Part) (22-25 Jan 1994).
- Stoyanov, B. J., and Farrell, R. A., "Creeping Waves: A Missing Ingredient in Variational Trial Fields," 1993 Edgewood RDEC Scientific Conf. on Obscuration and Aerosol Research, Edgewood, Md. (22-24 Jun 1993).
- Thomas, M. E., "Measurements and Models of the Optical Properties of Solids," Radiometric Physics Division Seminar, NIST, Gaithersburg, Md. (16 Feb 1994).
- Treede, R.-D. (Johannes Gutenberg Univ.), Meyer, R. A. (APL), and Lesser, R. P. (JHMI), "Threshold Temperatures for First Pain Sensation, Laser-Evoked Potentials and Nociceptor Activation Are Similar," 7th World Congress on Pain, Paris, France (22-27 Aug 1993).
- Vetter, J. R., "GPS Integrity and Availability," Aerospace Atlantic Conf., Dayton, Ohio (21 Apr 1994).
- Williams, D. J. (APL), Armstrong, T. P. (Univ. Kansas), Christon, S. P., and Gloeckler, G. (Univ. Maryland), Gold, R. E., Krimigis, S. M., Lui, A. T. Y., McEntire, R. W., Meng, C.-I., and Roelof, L. J. (APL), Lanzerotti, L. J. (Bell Labs.), Sarris, E. T. (Univ. Thrace, Greece), Fairfield, D. H. (GSFC), and Kokubun, S. (Univ. Tokyo, Japan), "Initial Investigation of the Distant Tail from Epic," IAGA Meeting, Buenos Aires, Argentina (8-20 Aug 1993).
- Yanek, S. P., "A Test Program to Assess Radio Vulnerability of Satellite Communications Terminals," Test Technology Symp. 7, APL, Laurel, Md. (29-31 Mar 1994).
- Zank, G. P. (Bartol Res. Inst.), Donohue, D. J., (APL), and Cairns, I. H. (Univ. Iowa), "The Heliospheric Termination Shock," Conf. on Res. Trends in Plasma Astrophysics, La Jolla, Calif. (6-10 Nov 1993).
- The following papers were presented at the ARVO Annual Meeting, Sarasota, Fla. (2-7 May 1993):
- Freund, D. E., McCally, R. L., and Farrell, R. A., "Ultrastructure in Scarred Cornea and Its Implications Concerning Light Scattering."
- McCally, R. L., and Hochheimer, B. F. (APL), and Connolly, P. J., Chamon, W., and Azar, D. T. (JHMI), "Objective Measurements of Haze Following Excimer Laser Ablation of the Cornea."
- Silver, D. M., Farrell, R. A., Ku, H. C. (APL), and Langham, M. E., and Schilder, P. (JHMI), "First Principles Analysis of the Pneumatic Tonometer for Intraocular Pressure Pulse Measurements."
- The following papers were presented at the 2nd Symp. on Research and Development at APL, JHU/APL, Laurel, Md. (2-3 Nov 1993):
- Ecker, J. A., Roberts, J. C., and Biermann, P. J., "The Design of Mechanically Compatible Fasteners for Human Mandible Reconstruction."
- Luesse, M. H., Roberts, J. C., and Magee, T. C., "Locally Increasing Surface Heat Spreading and Through-Thickness Thermal Conductivity of Composites."
- Nicholas, A. A., Roberts, J. C., Wienhold, P. D., and Garner, P. N., "Characterization of Water Formation Mechanisms on Hydrophobic Radome Materials."
- Roberts, J. C., and Wienhold, P. D. (APL), and Kirkbridge, D. L. (Westinghouse), "Electromagnetic Interference (EMI) Shielding of a Thin Nickel Plated Graphite/Epoxy Composite Aperture with Different Gasket Materials."
- Wienhold, P. D., and Roberts, J. C. (APL), and Kirkbridge, D. L. (Westinghouse), "Electromagnetic Interference (EMI) Shielding of Thin Graphite/Epoxy Composite Plates."
- The following papers were presented at the American Geophysical Union Fall Meeting, San Francisco, Calif. (6-10 Dec 1993):
- Christon, S. P., Gloeckler, G., Ipavich, F. M., and Galvin, A. (Univ. Maryland), Williams, D. J., McEntire, R. W., Gold, R. E., Krimigis, S. M., Lui, A. T. Y., Meng, C.-I., and Roelof, E. C. (APL), Armstrong, T. P. (Univ. Kansas), Lanzerotti, L. J. (Bell Labs.), Sarris, E. T. (Univ. Thrace, Greece), Fairfield, D. H. (GSFC), and Kokubun, S. (Univ. Tokyo, Japan), "Observations of the Composition of Enhanced Energetic Ion Flux in the Distant Magnetotail."
- Lanzerotti, L. J. (Bell Labs.), Armstrong, T. P. (Univ. Kansas), MacLennan, C. G. (Univ. Birmingham, UK), Simnett, G. M. (Univ. Kansas), Cheng, A. F., and Gold, R. E. (APL), Thomson, D. J. (Bell Labs.), Anderson, K. A. (Univ. Calif., Berkeley), Hawkins, III, S. E., and Krimigis, S. M. (APL), Pick, M. (Observatoire de Paris, France), Roelof, E. C. (APL), Sarris, E. T. (Univ. Thrace, Greece), and Tappin, S. J. (Univ. Birmingham, UK), "Overview of Selected Hot Plasma Measurements at Jupiter by the HI-SCALE Instrument on Ulysses."
- Lui, A. T. Y., Williams, D. J., McEntire, R. W., Jacquey, C., Angelopoulos, V., Gold, R. E., Krimigis, S. M., Meng, C.-I., and Roelof, E. C. (APL), Christon, S. P., Ipavich, F. M., and Gloeckler, G. (Univ. Maryland), Armstrong, T. P. (Univ. Kansas), Gliem, F. (Univ. Braunschweig, Germany), Lanzerotti, L. J. (Bell Labs.), Sarris, E. T. (Univ. Thrace, Greece), Fairfield, D. H. (GSFC), Kokubun, S. (Univ. Tokyo, Japan), and Yamamoto, T. (ISAS, Japan), "Angular Anisotropy in Energetic Particle Bursts Observed by GEOTAIL/EPIC in the Distant Magnetotail."
- Williams, D. J., Gold, R. E., Krimigis, S. M., Lui, A. T. Y., McEntire, R. W., Meng, C.-I., and Roelof, E. C. (APL), Christon, S. P., Ipavich, F. M., and Gloeckler, G. (Univ. Maryland), Armstrong, T. B. (Univ. Kansas), Gliem, F. (Univ. Braunschweig, Germany), Lanzerotti, L. J. (Bell Labs.), Sarris, E. T. (Univ. Thrace, Greece), Fairfield, D. H. (GSFC), Kokubun, S. (Univ. Tokyo, Japan), Yamamoto, T. (ISAS, Japan), and Frank, L. A. (Univ. Iowa), "Investigation of Energetic Particle Phenomena on October 27, 1992, in the Distant Magnetotail by GEOTAIL/EPIC."

COLLOQUIA

The following topics were recently presented at the weekly APL Colloquium:

- 25 Mar 1994: "Stratospheric Ozone: Politically Correct and Other Views," S. F. Singer, Univ. Virginia and The Science and Environmental Policy Project.
- 1 Apr: "Low Vision Enhancement: Applications of Virtual Environments," R. W. Massof, JHU.
- 8 Apr: "The Crash of Periodic Comet Shoemaker-Levy 9 on Jupiter," E. W. Shoemaker, U.S. Geological Survey.
- 15 Apr: "Kicking and Splitting Atomic Beams with Light," L. S. Goldner, National Institute of Science and Technology.
- 22 Apr: "New Results from the Hubble Space Telescope," H. C. Ford, JHU and Space Science Telescope Institute.
- 29 Apr: "Synchronizing Chaotic Circuits," T. L. Carroll, NRL.
- 6 May: "Quantum Corrals," D. M. Eigler, IBM Almaden Research Center.
- 13 May: "Status and Challenges in Multichip Packaging," R. Tummala, Georgia Institute of Technology.
- 20 May: "Under Our Feet: Dinosaurs of the East Coast," D. B. Weishampel, JHU.
- 27 May: "Transportation Research at APL," D. L. Kershner, R. L. Yuan, and K. E. Richeson, APL.