

DEPARTMENTS

PUBLICATIONS

- Anagnostopoulos, G. C., and Sarris, E. T. (Univ. Thrace), and Krimigis, S. M. (APL), "Magnetospheric Origin of Energetic ($E \geq 50$ keV) Ions Upstream of the Bow Shock: The October 31, 1977 Event," *J. Geophys. Res.* **91**, 3020-3028 (1986).
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PRESENTATIONS

- Apel, J. R., "Internal Solitons in the Sulu Sea," Seminar, Naval Underwater Systems Center, New London, Conn. (Apr 30, 1985).
- Batchelor, D. A., "Application of the Thermal Conduction Front Model to Rapid Rises in Hard X-Rays and Microwaves," NASA Workshop on Rapid Fluctuations in Solar Flares, Lanham, Md. (Oct 4, 1985).
- Benson, R. C., deHaas, N., Phillips, T. E., and Charles, H. K., Jr., "Outgassing Measurements on Microelectronic Adhesives," Hewlett-Packard Gas Chromatography/Mass Spectrometry Users Meeting, Rockville, Md. (Mar 18, 1986).
- Blum, B. I., "Issues in Evaluating Development Environments," Seminar, Virginia Polytechnic Institute & State University, Blacksburg, Va. (Jan 29, 1986).
- Burk, A. A., Jr., "Photoluminescent Properties of n-GaAs Electrodes: Simultaneous Determination of Depletion Widths and Surface Hole-Capture Velocities in Photoelectrochemical Cells," Seminar, Western Maryland College, Westminster, Md. (Apr 11, 1986).
- Burton, D. T., "Analytical Chemistry of Diethylene Glycol Dinitrate, Synthetic Hexachloroethane Smoke Combustion Products, Solvent Yellow 33, and Solvent Green 3 in Freshwater," Seminar, Health Effects Research Div., U.S. Army Medical Bioengineering Research and Development Command, Ft. Detrick, Md. (Sep 17, 1985).
- Burton, D. T., "Chemical and Biological Considerations of Dechlorination in Maryland Power Plants," Meeting, Environmental Research Guidance Committee, Maryland Power Plant Siting Program, Annapolis (Sep 14, 1985).
- Bythrow, P. F., "Upward Directed Birkeland Currents in the Pre-Midnight Sector: One Source of Magnetospheric Ions," Chapman Conf. on Ionospheric Plasma in the Magnetosphere: Sources, Mechanisms, and Consequences, Yosemite, Calif. (Feb 3-7, 1986).
- Class, B. F. (Fairchild), Bauer, F. H. (NASA/Goddard), Strohbehn, K. (APL), and Welch, R. V. (Fairchild), "Space Infrared Telescope Facility/Multimission Modular Spacecraft Attitude Control System Conceptual Design," Annual Guidance and Control Conf., American Astronautical Society, Keystone, Colo. (Feb 1-5, 1986).
- Drobot, A., Manofsky, A., Linson, L., and Papadopoulos, K. (Science Applications International), and Lui, A. T. Y. (APL), "Wave Phenomena during Gas Releases in the Magnetosphere," National Radio Science Meeting, Boulder (1986).
- Eastman, T. E., and Huang, C. Y. (Univ. Iowa), Mitchell, D. G. (APL), and Rostoker, G. (Univ. Alberta), "Particle and Field Signatures in the Earth's Magnetotail during Substorm Activity: Evidence for an Explanation Involving Boundary Layer Dynamics," Fall Meeting, American Geophysical Union, San Francisco (Dec 9-13, 1985).
- Franson, J. D., "An Experimental Test of Locality Using a Single-Photon Interferometer," Conf. on Quantum Measurement Theory, New York (Jan 21-24, 1986).
- Hunter, L. W., Kuttler, J. R., Barger, C. B., and Benson, R. C., "Oxidation of Refractory Carbides," 10th Annual Conf. on Composites and Advanced Ceramic Materials, Cocoa Beach, Fla. (Jan 19-24, 1986).
- Ipavich, F. M. (Univ. Maryland), and Krimigis, S. M. (APL), "The Origin of Upstream Particle Events—Two Viewpoints," Physics Department Colloq., University of Maryland, College Park (Nov 15, 1985).
- Krimigis, S. M., "Discoveries from a Distant Flyby—Exploration of Uranus and Its Satellites by the Voyager-2 Spacecraft," Lecture Series on New Horizons in Science and Technology, University of North Carolina, Charlotte (Mar 11, 1986).
- Krimigis, S. M., "The Exploration of Uranus, Its Moons, and Magnetosphere by the Voyager 2 Spacecraft," Naval Research Laboratory Colloq., Washington (May 15, 1986).
- Krimigis, S. M., "Investigation of Uranus, Its Rings, Moons, and Magnetosphere," University of Calgary Colloq. (Apr 4, 1986).
- Lui, A. T. Y. (APL), Mankofsky, A., Smith, R. A., Drobot, A. T., and Linson, L. (Science Applications International), and Papadopoulos, K., and Goodrich, C. C. (Univ. Maryland), "Modeling of Ion Cloud Expansion in Space," National Radio Science Meeting, Boulder (Jan 13-16, 1986).
- Maurer, R. H., Schlafly, A. L., and Wagner, G. D., "Radiation Hardness of a Standard Commercial Gate Array," Government Microcircuits Application Conf., Orlando (Nov 5-7, 1985).
- MacLennan, C. G., and Lanzerotti, J. J. (AT&T Bell Labs.), and Gold, R. E., and Krimigis, S. M. (APL), "Energy Spectra of Latitude-Dependent Co-Rotating Shocks in the Outer Heliosphere," Fall Meeting, American Geophysical Union, San Francisco (Dec 9-13, 1985).
- Murphy, J. C., Cohn, R. F., and Hartong, G. S., "Remote Monitoring of Corrosion Using AC Magnetometry," 2nd National Seminar on Non-Destructive Evaluation of Ferromagnetic Materials, Houston (Mar 18-20, 1986).
- South, H. M., "Principles and Technology of Sonar," JHU Quantum Electronics and Electromagnetic Systems Seminar, Baltimore (Mar 6, 1986).
- Suter, J. J., and Maurer, R. H., "Low and High Dose Photon Irradiation of Quartz Crystal Resonators," 17th Precise Time and Time Interval Applications and Planning Meeting, Washington (Dec 3-5, 1985).
- Tolchin, S. G., "Local Area Networks: Technology, Architecture, and Protocols," Symp. on Computer Applications in Medical Care, Baltimore (Nov 10-13, 1985).
- Tolchin, S. G. (APL), and Barta, W. L. (JHH), "Local Network and Distributed Processing Issues in the Johns Hopkins Hospital Distributed Clinical Information System," 19th Annual Hawaii International Conf. on System Sciences, Honolulu (Jan 1986).
- Vogel, W. J., and Torrence, G. W. (Univ. Texas, Austin), and Goldhirsh, J., and Rowland, J. R. (APL), "Attenuation Due to Single Trees along Earth Space Paths at 869 and 1500 MHz," National Radio Science Meeting, Boulder (Jan 13-16, 1986).
- Zanetti, L. J., Potemra, T. A., Bythrow, P. F., and Meng, C.-I. (APL), Huffman, R. E., Hardy, D. A., and Rich, F. J. (Air Force Geophysics Lab.), and Hanson, W. B. and Heelis, R. A. (Univ. Texas), "Polar Current Systems, Aurora, Particle, and Electric Field Signatures," 5th General Assembly, International Assoc. of Geomagnetism and Aeronomy, Prague (Aug 2-9, 1985).

The following papers were presented at the Chapman Conf. on Magnetotail Physics, APL, Laurel, Md. (Oct 28-31, 1985):

- Mauk, B. H., "Quantitative Modeling of the 'Convection Surge' Mechanism";
- McEntire, R. W. (APL), Cladis, J. B. (Lockheed), Krimigis, S. M. (APL), Haerendel, G. (Max-Planck Inst.), Gloeckler, G. (Univ. Maryland), Shelley, E. G. (Lockheed), and Mauk, B. H. (APL), "Tracer Aspects of AMPTE Tail Releases";
- Mitchell, D. G., and Williams, D. J., "Kinetic Aspects of Tail Dynamics—Observations";
- Sibeck, D. G., McEntire, R. W., Lui, A. T. Y., and Krimigis, S. M., "Ion Pitch-Angle Distributions (PAD's) within 9 R_E of Earth."

The following papers were presented at the American Physical Society Meeting, Las Vegas (Mar 31-Apr 4, 1986):

- Bargeron, C. B., Nall, B. H., and Jette, A. N. "Interference Effects Due to Reflection at the Surface Potential Barrier as Revealed by Current Image Diffraction (CID);"
Bryden, W. A., Morgan, J. S., Kistenmacher, T. J., and Moorjani, K., "Electrical Transport in Transition Metal-Metalloid Alloys";
Kistenmacher, T. J., "Cubical Indices for Rapidly Quenched Al-Mn";
Phillips, T. E., Murphy, R. A., and Poehler, T. O., "Effect of Fe on the Temperature Dependent Electrical Conductivity of VO_2 ";
Rubinstein, M., and Strauss, G. H. (NRL),

Phillips, T. E., and Moorjani, K. (APL), and Bennett, L. H. (NBS), "Nuclear Magnetic Resonances in Al-Rich Quasi-periodic Crystals."

- Mar 21—"Cellular Logic Algorithms for Image Analysis," K. Preston, Jr., Carnegie Mellon University.
Mar 28—"Rising World Food Productivity," D. T. Avery, U.S. Department of State.
Apr 4—"Enhancing the Man/Machine Interface: MIT's Media Technology Laboratory," J. B. Wiesner, MIT.
Apr 11—"Localized NMR Spectroscopy in Man," P. A. Bottomley, General Electric Research Laboratory.
Apr 18—"What Makes a Good Computer Device?" R. W. Keyes, IBM Watson Research Laboratory.
Apr 25—"Automation in Japan, the U.S., and at APL," R. E. Kemelhor, APL.
May 2—"Did ULTRA and MAGIC Win World War II?" H. C. Deutsch, U.S. Army War College (ret.).

COLLOQUIA

- Feb 21, 1986—"The Physics of Dance," K. Laws, Dickinson College.
Feb 28—"Squeezing the Vacuum in an Optical Cavity," R. E. Slusher, AT&T Bell Laboratories.
Mar 7—"The Fractional Quantized Hall Effect," H. L. Stormer, AT&T Bell Laboratories.
Mar 14—"Distortion of Loudspeakers," P. W. Klipsch, Klipsch and Associates.