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PRESENTATIONS

Adrian, F. J., "Chemically Induced Magnetic Polarization in Free Radical Reactions," Special International Symp. on

- Maclachlan, J. W. (JHU), Wetsel, G. C. (Southern Methodist Univ.), and Murphy, J. C. (APL), "Photoacoustic/Photothermal Characterization of Metallic Interfaces," Optical Society of America, Washington, D.C. (Oct 14-18, 1985).
- Maryak, J. L., Spall, J. C., and Hill, S. D., "Noninformative Bayesian Prior for a Class of Dynamic Models," Annual Meeting, American Statistical Association, Las Vegas (Aug 5-8, 1985).
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- Romenesko, B. M., "Manufacturing Technology for Surface Mounted Electronics," ISHM Education Course, International Society for Hybrid Microelectronics, Anaheim (Nov 17, 1985).
- Root, V. M., "Performance Evaluation: Should We Try to Influence It?" Annual Conf. Research Institute Publishing Executives, Honolulu (Oct 20-24, 1985).
- Schaefer, J. (Max Planck Inst., Munich) and Monchick, L. (APL), "Pressure Broadening Line Shape Cross Sections of HD Colliding with H₂ and He," Conf. on the Dynamics of Molecular Collisions, Snowbird, Utah (Jul 18, 1985).
- Schaefer, J. (Max Planck Inst., Munich) and Monchick, L. (APL), "Pressure Broadening Line Cross Sections of HD Colliding with H₂ and He," Gordon Research Conf., Wolfeboro, N.H. (Jul 8-12, 1985).
- Sigillito, V. G., and Wachter, R. F., "A Man-Machine Interface to a Knowledge Based System for Validating Oceanographic Reports," 2nd International Conf. on AI Applications, IEEE Computer Soc., Miami (Dec 11-13, 1985).
- Silver, D. M., "Color of Fluorine Intercalated Graphite Fibers," Symp. on Electronic Properties of New Materials, Kyoto (Sep 9-10, 1985).
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- Thompson, D. R., Apel, J. R., Tilley, D. G., and Van Dyke, P., "Imaging Mechanisms for Solitary Waves in the Andaman Sea," Spring Meeting, American Geophysical Union, Baltimore (May 27-31, 1985).
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- The following papers were presented at the Fall Meeting, American Geophysical Union, San Francisco (Dec 9-13, 1985):
- Baker, K. B., and Greenwald, R. A., "A Statistical Survey of Results from the Goose Bay HF Radar";
- Black, H. D. (APL), Seegar, W. S. (Chemical Research and Development Center), Fuller, M. R. (Patuxent Wildlife Research Center), and Wall, J. G. (APL), "Weather, Wildlife, and Satellites";
- Bythrow, P. F., Potemra, T. A., and Zanetti, L. J. (APL), Rino, C. L. (SRI International), Hardy, D. A., and Rich, F. J. (Air Force Geophysics Lab.), and Heelis, R. A. (Univ. Texas), "The Relationship of Scintillations to Birkeland Currents, Energetic Electrons, and the Ion Drift Observed in the Cusp Region";
- Carbary, J. F., "Correlation of Cusp Location with AE and IMF Bz: One Year's Data";
- Cheng, A. F., "Charge Exchange Neutrals from Jupiter and Saturn";
- Decker, R. B., and Krimigis, S. M. (APL) and Venkatesan, D. (Univ. Calgary), "Radial and Latitudinal Gradients of Cosmic Rays in 1981-1985";
- Engebretson, M. J., "DE-2 Mass Spectrometer Observations Relevant to the Shuttle Glow";
- Fillius, W. (Univ. California, San Diego) and Roelof, E. C. (APL), "Local 'Quiet-Time' Radial Gradients of Galactic Cosmic Rays from Single Spacecraft Measurements";
- Gold, R. E., Decker, R. B., and Krimigis, S. M., "Latitude Dependence of Jovian Electrons in 1981 through Mid 1985";
- Greenspan, M. E., and Meng, C.-I., "More on Dawn-Dusk Gradients in the Polar Rain";
- Greenwald, R. A., and Baker, K. B., "On the Drift Velocity of Electrojet Irregularities at HF Wavelengths";
- Keath, E. P., Lui, A. T. Y., McEntire, R. W., and Krimigis, S. M., "Pitch Angle Distributions of Energetic Protons, Helium, and Oxygen in the Storm-Time Ring Current";
- Krimigis, S. M., Sibeck, D. G., and McEntire, R. W., "Simultaneous Observations of Ion Events ≥ 50 keV Upstream of the Bow Shock and Inside the Dayside Magnetosphere";
- Lui, A. T. Y., "Inferred Dependence of the Geotail Length on the Interplanetary Magnetic Field";
- Lundin, R. (Kiruna Geophysical Institute) and Mitchell, D. G., and Williams, D. J. (APL), "Energetic Particle (≥ 30 keV) Anisotropy Oscillations in the Plasma Sheet";
- Maclennan, C. C., and Lanzerotti, L. J. (AT&T Bell Labs.) and Gold, R. E., and Krimigis, S. M. (APL), "Energy Spectra of Latitude Dependent Corotating Shocks in the Outer Heliosphere";
- Makita, K. (Takushoku Univ.) and Meng, C.-I. (APL), "Hemispherically Symmetric Polar Rain Event";
- Mauk, B. H., and Krimigis, S. M., "Radial Force Balance within Jupiter's Dayside Magnetosphere";
- McEntire, R. W., Lui, A. T. Y., Keath, E. P., Krimigis, S. M., and Sibeck, D. G., "Magnetospheric Heavy Ion Distributions";
- Meng, C.-I., "Progress in Auroral Physics from DMSP and HILAT Images";
- Meng, C.-I. (APL) and Huffman, R. E., and Hardy, D. A. (Air Force Geophysics Lab.), "Comparison of Photometric and Electron Precipitation Measurements from HILAT Satellite";
- Mitchell, D. G., and Williams, D. J. (APL) and Lundin, R. (Kiruna Geophysical Institute), "Energetic Ion Conics in the Plasma Mantle";
- Paonessa, M., "Corotation Anisotropies of Energetic Ions in Jupiter's Magnetosphere";
- Roelof, E. C., "Predicted Latitude Gradients of Galactic Cosmic Rays during the Ulysses Mission and Their Probable Cause";
- Sibeck, D. G., McEntire, R. W., Lui, A. T. Y., and Krimigis, S. M., "Energetic Ions at the Sub-Solar Magnetopause";
- Villain, J. P. (APL), and Caudal, G. and Hanuise, C. (Univ. Toulon), "A Safari-Eiscat Comparison between the Velocity of F-Region Small-Scale Irregularities and the Ion Drift";
- Wing, S., Greenwald, R. A., and Baker, K. B. (APL), Clauer, C. R. (Star Labs.), and Oliver, W. L. (Millstone Hill Observatory), "Comparative Studies of the Drift Motion of High Latitude E- and F-Region Electron Density Irregularities";

Zanetti, L. J., and Potemra, T. A. (APL) and Acuna, M. A. (NASA/Goddard), "Magnetic Signatures, Magnetopause Crossings on Sept. 19, 1984, as Observed by the AMPTE/CCE Spacecraft."

COLLOQUIA

- Dec 6, 1985—"Computer Modeling of Macromolecules," R. J. Feldmann, National Institutes of Health.
- Dec 13—"Why Nuclear Deterrence Will Not Go Away," M. Nacht, University of Maryland.
- Jan 3, 1986—"ICE Observations of Comet Giacobini-Zimmer," F. L. Scarf, TRW Systems.
- Jan 10—"An Industrial Laboratory," R. A. Frosch, General Motors Research Laboratories.
- Jan 17—"Mapping the Chromosomes of Man," V. A. McKusick, The Johns Hopkins University.
- Jan 24—"Aquarium Update," N. Brown, National Aquarium in Baltimore.
- Jan 31—"Bioelectromagnetic Investigations at APL," J. S. Hansen, APL.
- Feb 7—"Chaotic Processes in the Solar System," J. Wisdom, MIT.
- Feb 14—"Supersonic Meteorology and Other Unusual Processes in Io's Atmosphere," M. E. Summers, The Johns Hopkins University.

U.S. PATENTS (1985)

R. E. Fischell, *Plural Module Medication Delivery System*, # 4,494,950, Jan 22:

A system allowing intercommunication between a plurality of intracorporeal and/or extracorporeal modules forming a biomedical system, such as a closed-loop medication infusion system.

R. E. Fischell, *Fluid Handling System for Medication Infusion System*, # 4,525,165, Jun 25:

The fluid-handling portion of a medication infusion system, directed at the combination of a pulsatile medication pump and an accumulator/flow restrictor that acts to smooth the output from the pump to better simulate the natural flow profiles of a body-produced substance such as insulin or reproductive sex hormones.

R. E. Fischell and A. L. Newman, *Apparatus for Inhibiting Self-Injurious Behavior (SIB) in Patients*, # 4,524,773, Jun 25:

A system for inhibiting self-injurious behavior, comprising a sensor module that detects self-inflicted blows to a patient's head and transmits a coded signal to a stimulus module that responds by applying aversive electrical stimulation to the patient's skin.

A. F. Hogrefe and W. E. Radford, *Coherent Inductive Communications Link for Biomedical Applications*, # 4,561,443, Dec 11:

An improved two-way coherent communications link between an external transceiver and an internal transceiver located in a biologically implanted medical unit.

C. A. Keller, *Fiber Optic Fluid Impurity Detector*, # 4,544,840, Oct 1:

A system comprising at least one optic fiber whose index of refraction is matched to that of a surrounding fluid, so that the amount of light that traverses the light pipe varies as a function of an impurity contained in the fluid.

D. A. Kitchin, *Synchronous Clock Stopper for a Microprocessor Operated in a Power-Limited Environment*, # 4,545,030, Oct 1:

Circuitry for controlling a microprocessor in a limited power environment in order to conserve its power consumption.

J. G. Parker and W. D. Stanbro, *Localization of Cancerous Tissue by Monitoring Infrared Fluorescence Emitted by Intravenously Injected Porphyrin, Tumor-Specific Markers Excited by Long Wavelength Light*, # 4,541,438, Sep 17:

A method and apparatus for localizing cancerous tissue during photochemotherapy, based on the detection of fluorescent emission produced when the tissue is excited by long-wavelength red light.

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