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PRESENTATIONS

- Blum, B. I., "Software Engineering: A Holistic View of Design Methods," Space Telescope Science Institute, Baltimore, Md. (27 Sep 1993).
- Devereux, W. S., and Duven, D. J., "A Command, Telemetry, and Positioning System for Spacecraft Using GPS Transdigitizers," ION GPS-93 6th Annual Technical Meeting, Salt Lake City, Utah (22-24 Sep 1993).
- Ehrlich, L. W., and Silver, D. M., "On Solving Electromagnetic Wave Scattering from Periodic Surfaces," 4th Annual Navy R&D Information Exchange Conf., San Diego, Calif. (13-15 Apr 1993).
- Geckle, W. J., and Raul, R. (APL), and Aversano, T. A. (JHMI), "Effects of Simulated Pulsatile Background Flow on Parametric Visualization in Cineangiography," IEEE Computers in Cardiology, Imperial College of Science, Technology & Medicine, London, England (5-8 Sep 1993).
- Kosmin, L. J., "Workshop: Revitalizing Professional Communications, The Internet Challenge," Int. Professional Communications Conf. (IPCC '93), Philadelphia, Pa. (5-8 Oct 1993).
- Krimigis, S. M., "Panel Discussion: Conclusions and Recommendations," Workshop on Advanced Technologies for Planetary Instruments, Hyatt Fair Lakes, Fairfax, Va. (30 Apr 1993).
- Moore, R. C., "Intra-Spacecraft Digital Communications," Communications Technology Seminar: Intra-Spacecraft Digital Interface, JHU Whiting School of Engineering, Dorsey Center, Baltimore, Md. (4 Nov 1993).
- Moorjani, K., "Summary of the Talk at the Roundtable Discussion: World Congress on Superconductivity," World Congress on Superconductivity, Munich, Germany (14-18 Sep 1992).
- Moorjani, K., Adrian, F. J., Bohandy, J., and Kim, B. F., "Phase Separation in Cuprate Oxide Superconductors," Energy Conversion Devices, Inc., Troy, Mich. (1 Oct 1993).
- Newhall, B. K., "Measurements of the Azimuthal Distributions of Very Low-Frequency Noise with High Resolution in a

Shallow Site in the Mediterranean," Acoustical Society of America, Denver, Colo. (6 Oct 1993).

- Pace, D. K. (APL), and Lewis, R. O. (General Res. Corp.), "Identification and Description of Selected VV&A Automation Tools Currently Being Used," Workshop on Methods and Tools for Verification, Validation, and Accreditation, The Rand Corp., Santa Monica, Calif. (5-6 Oct 1993).
- Pace, D. K., and Youngblood, S. M., "Interaction and Interdependencies of Analysis, Models, and Data," MORS Mini-Symposium on Simulation Data and Its Management, Falls Church, Va. (16-18 Nov 1993).
- , "Verification, Validation, Accreditation, and Certification Costs," MORS Mini-Symposium on Simulation Data and Its Management, Falls Church, Va. (16-18 Nov 1993).
- Sommerer, J. C., "Review of Schack and Caves Proof of the Second Law," Univ. Maryland Dynamics Seminar, College Park, Md. (11 Feb 1992).
- , "Scum Floating on a Moving Fluid: A Physical Fractal with a Dynamical Pedigree," NATO Advanced Research Workshop on Chaotic Advection, Tracer Dynamics and Turbulent Dispersion, Alessandria, Italy (23-26 May 1993).
- , "Scum Floating on a Moving Fluid: A Dynamically Comprehensible Physical Fractal," 2nd Experimental Chaos Conf., Arlington, Va. (6 Oct 1993).
- Sommerer, J. C. (APL), and Ott, E. (Univ. Maryland), "Riddled Basins in a Differential Equation," Univ. Maryland Dynamics Seminar, College Park, Md. (22 Apr 1993).
- Spall, J. C., "Neural Networks and Control," School of Engineering Seminar, Oakland Univ., Rochester, Mich. (11 Oct 1993).
- Wickenden, D. K., "Gallium Nitride for Short Wavelength Optoelectronic Applications," Seminar, NIST, Gaithersburg, Md. (22 Nov 1993).
- Wickenden, D. K., and Bryden, W. A., "The Growth and Characterization of Silicon Doped GaN," Int. Conf. on Silicon Carbide and Related Materials-93, Howard University, Washington, D. C. (1-3 Nov 1993).
- The following papers were presented at the Spring Meeting of the American Geophysical Union, Baltimore, Md. (24-28 May 1993):
- Baker, K. B., Crowley, G., Ruohoniemi, J. M., and Greenwald, R. A., "Production of High-Latitude Ionospheric F-Region Patches During the March 1990 Storm."
- Buonsanto, M., and Foster, J. (MIT Hatstack Observ.), Anderson, D. N. (Phillips Lab.), Crowley, G. (APL), and Emery, B. A. (Nat. Ctr. Atmospheric Res.), "Recent Results from the Cedar Storm Study."
- Crowley, G. (APL), Schoendorf, J., and Roble, R. G. (Nat. Ctr. Atmospheric Res.), and Marcos, F. A. (Phillips Labs.), "Comparison of Predicted and Measured Laser Thermospheric Neutral Density."

—, "Interpretation of Lower Thermosphere High-Latitude Density Measurements in Terms of Density Cells."

- Ruohoniemi, J. M., Greenwald, R. A., Baker, K. B., and Crowley, G., "High-Latitude Plasma Convection and Its Relation to the IMF."
- Williams, D. J., McEntire, R. W., Krimigis, S. M., and Roelof, E. C. (APL), Wilken, G. (Max-Planck-Inst., Germany), Armstrong, T. P. (Univ. Kansas), Fritz, T. A. (Los Alamos Nat. Lab., N.M.), Lanzerotti, L. J. (Bell Labs.), and Roederer, J. G. (Univ. Alaska), "The Galileo Energetic Particle Detector: Results at Venus."
- Zucker, P. A., Suter, J. J., Vetter, J. R., Wall, J. G., and Martin, L. P., "Compact Gravity Gradiometer for Space Geodesy."

The following papers were presented at the 7th Annual AIAA/Utah State Univ. Conf. on Small Satellites, Logan, Utah (13-16 Sep 1993):

- Devereux, W. S., and Duven, D. J., "The GPS-Linked Transponder—A Command, Telemetry, and Positioning System for Small Spacecraft."
- Krimigis, S. M., "Near-Earth Asteroid Rendezvous (NEAR) Mission: A New Approach."
- Santo, A. G., and Cheng, A., "Near-Earth Asteroid Rendezvous Project: A Small Satellite Approach."

The following papers were presented at the 2nd Symp. on Research and Development at APL, JHU/APL, Laurel, Md. (2-3 Nov 1993):

- Apel, J. R., "Radar Scatter from the Ocean Surface: A New Surface Wave-Vector Spectrum."
- Barger, C. B., Phillips, T. E., and Benson, R. C., "Electrical Conductivity in Condensed Phases of Ammonia, Water, and Carbon Dioxide."
- Benson, R. C., and Phillips, T. E. (APL), Dyer, J. S. (SDL, Utah State Univ.), and Guregian, J. J. (Sensor Systems Group, Waltham, Mass.), "Outgassing Analyses Performed During Vacuum Bakeout of MSX Components Painted with Chemglaze Z306/9922."
- Benson, R. C., Phillips, T. E., and Uy, O. M. (APL), and Cotter, R. J. (JHU), "Time-of-Flight Mass Spectrometer."
- Bryden, W. A., Suter, J. J., and Kistenmacher, T. J., "SAW Device for the Detection of Trichloroethylene Vapor."
- Collins, B. F. M. (JHU), Bryden, W. A. (APL), and Poehler, T. O. (JHU), "Magnetic Resonance Imaging Investigations of Solid Materials."
- Cowan, D. O. (JHU), and Fainchtein, R. (APL), "Low-Dimensional Organic Conductors and Superconductors."
- Fainchtein, R., "Scanning Near-Field Optical Microscopy."
- Gopalan, P., Srinivasan, R., and Murphy, J. C., "Environmental Monitoring of Waste Management Dumps by Magnetometer-Assisted Current Tomography."

Jette, A. N., and Benson, R. C., "Pulsed Laser Heating of Contaminant Films on Metal Substrates."

Kistenmacher, T. J., Bryden, W. A., and Ecelberger, S. A. (APL), and Hawley, M. E. (Los Alamos National Lab.), "Relaxing with Thin Films of Indium Nitride."

Spicer, J. W. M., Osiander, R., and Murphy, J. C., "Characterizing Corrosion in Aging Aircraft by Time-Resolved Infrared Radiometry."

Srinivasan, R., and Gopalan, P., "Order and Disorder in Electrochemical Deposits of Copper."

Wickenden, D. K., and Bryden, W. A., "The Growth and Characterization of Silicon Doped GaN."

Wickenden, A. E. (JHU), and Wickenden, D. K., and Kistenmacher, T. J. (APL), "The Effect of Annealing on GaN Nucleation Layers on (0001)-Oriented Sapphire."

The following papers were presented at the Mid-Atlantic Regional Probability and Statistics Day, Rockville, Md. (6 Nov 1993):

Chin, D. C., "Performance of Several Stochastic Approximation Algorithms in the Multivariate Kiefer-Wolfowitz Setting."

Maryak, J. L., "Model-Based Fault Detection and Isolation in Complex Systems."

Nelson, J. B., "Genetic Algorithms (GAs) as a Subsumption of Sharpened Random Search."

Spall, J. C., "Confidence Intervals for General M-estimates in Small Samples."

_____, "The Distribution of Nonstationary Autoregressive Processes Under General Noise Conditions."

COLLOQUIA

1 Oct 1993: "Developing, Using, and Marketing a New Technology for Visualizing Ocular Blood Flow," R. W. Flower, APL.

8 Oct: "Why High Temperature Superconductivity Is Such an Important Problem," C. M. Varma, AT&T Bell Labs.

15 Oct: "The Nickel Metal Hydride Battery for Electric Vehicles," S. R. Ovshinsky, Energy Conversion Devices, Inc.

22 Oct: "The Birth of the Nuclear Age: December 2, 1942," A. Wattenberg, University of Illinois.

29 Oct: "The Compton Gamma-Ray Observatory: New Eyes to View the Universe," C. E. Fichtel, NASA/GSFC.

5 Nov: "Cosmology—Past, Present, and Future," P. J. Peebles, Princeton University.

12 Nov: "Managing Polaris: An Historical Perspective," T. P. Hughes, University of Pennsylvania.

19 Nov: "Security, Audit, and Control of Client-Server Computer Architectures," W. H. Murray, Deloitte & Touche.

3 Dec: "New Approaches to Neutrino Detection," J. Weber, University of Maryland, College Park.

10 Dec: "Providing Quality Software for the Space Shuttle," T. W. Keller, IBM Federated Sector Services Corp.

17 Dec: Third Annual A. Mahan Christmas Lecture—"Nonlocality in Quantum Optics: From Paradox to Practical Applications," J. D. Franson, APL.