

## PUBLICATIONS

- Armstrong, T. P., and Choo, T. H. (Univ. Kansas), Roelof, E. C. (APL), Simnett, G. M. (Univ. Birmingham, United Kingdom), and Sarris, E. T. (Univ. Thrace, Greece), "The Effect of the Shock of 15:43 UT March 23, 1991 on 50 keV to 5 MeV Ions at Ulysses," *Geophys. Res. Lett.* **19**, 1247-1250 (1992).
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## PRESENTATIONS

Bokulic, R. S., "High-Data-Rate Communication Techniques for Small Satellites," 6th Annual AIAA/Utah State Univ. Conf. on Small Satellites, Logan, Utah (21-24 Sep 1992).

Gaskill, D. K., Doverspike, K., and Giordana, A. (NRL), Pazik, J. (ONR), Wickenden, D. K., and Wickenden, A. E. (APL), "Growth of Wide Bandgap Semiconductors," Workshop on SiC Materials & Devices, Charlottesville, Va. (10-11 Sep 1992).

Jackson, P. B., "A Gradient Projection Algorithm for Missile Autopilot Stability Analysis," AIAA Guidance, Navigation and Control Conf., Hilton Head, S.C. (10-12 Aug 1992).

Kinnison, J. D., Maurer, R. H., McKerracher, P. L., and Carkhuff, B. G., "A Summary of Recent VLSI SEU and Latchup Results," IEEE Nuclear and Space Radiation Effects Conf., New Orleans, La. (13-17 Jul 1992).

Maurer, R. H., and Kinnison, J. D., "Single Event Upset and Latchup Sensitive Devices in Satellite Systems," 6th AIAA/Utah State Conf. on Small Satellites, Logan, Utah (22-24 Sep 1992).

McCally, R. L., Freund, D. E., Christens-Barry, W. A., and Farrell, R. A., "Effects of Stromal Structure on Light Scattering," 10th Int. Congress of Eye Research, Stresa, Italy (21-26 Sep 1992).

McNutt, R. L., Jr. (APL), Belcher, J. W., Lazarus, A. J., and Gordon, G. S., Jr., (MIT), "Voyager Plasma Observations in the Outer Heliosphere," World Space Congress/COSPAR: Symposium D.2-s, Washington, D.C. (28 Aug-5 Sep 1992).

Sommerer, J. C. (APL), and Ott, E. (Dept. Physics, UMCP), "A Physical Fractal with a Pedigree," SIAM Conf. on Applications of Dynamical Systems, Snowbird, Utah (16-19 Oct 1992).

Sova, R. M., Linevsky, M. J., Thomas, M. E., and Mark, F. F., "High Temperature Optical Properties of Oxide Dome Materials," 1992 Int. Symp. on Optical Applied Science and Engineering, San Diego, Calif. (19-24 Jul 1992).

Spall, J. C., "Some Comments on Neural Networks and Control," Washington Statistical Society Seminar, George Washington Univ., Washington, D. C. (9 May 1992).

Spicer, J. W. M., "Time-Resolved Infrared Radiometry Techniques for Nondestructive Evaluation and Materials Characterization," Baltimore Chapter Meeting of ASM, Ellicott City, Md. (22 Sep 1992).

Stapor, W. J., and Meyers, J. (NRL), Kinnison, J. D., and Carkhuff, B. G. (APL), "Low Dose Space Estimates for VLSI Devices Using Linear System Theory," IEEE Nuclear and Space Radiation Effects Conf., New Orleans (13-17 Jul 1992).

Stoyanov, B. J., Farrell, R. A., and Bird, J. F., "Asymptotic Expansions of Integrals of Two Bessel Functions via the Generalized

Hypergeometric and Meijer Functions," 5th Int. Congress on Computational and Applied Mathematics, Leuven, Belgium (27 Jul-1 Aug 1992).

Strohbehm, K., and Rust, D. M., "A Fast Image Motion Compensator for the APL/NSO Vector Magnetograph," Real Time and Post-Facto Solar Image Correction, Sunspot, N. M. (15-18 Sep 1992).

Tropf, W. J., and Thomas, M. E., "Models of the Optical Properties of Solids," 1992 Int. Symp. on Optical Applied Science and Engineering, San Diego, Calif. (19-24 Jul 1992).

White, M. E., "Propulsion Technology Development for the National Aerospace Plane," 1992 SAE Aerospace Atlantic Conf., Dayton, Ohio (7-10 Apr 1992).

Williams, D. J., "The Importance of Theory-Data Closure," 1992 STEP Symp./5th COSPAR Colloquium, Laurel, Md. (24-28 Aug 1992).

Williams, D. J., McEntire, R. W., Krimigis, S. M., and Roelof, E. C. (APL), Wilkin, B., and W. Studemann (Max-Planck-Inst., Germany), Armstrong, T. P. (Univ. Kansas), Fritz, T. A. (LANL), Lanzerotti, L. J. (Bell Labs), and Roederer, J. G. (Univ. Alaska), "Galileo at Earth: Energetic Particle Observations," World Space Congress, Washington, D.C. (2 Sep 1992).

The following papers were presented at the 20th Electromagnetic Window Symposium, Georgia Tech. Research Institute, Atlanta, Ga. (15-17 Sep 1992):

Frazer, R. K. (APL), and Geddes, N. A., and Kissinger, R. D. (Aerojet Propulsion Div.), "Cooled Metallic Radome Development and Applications."

Schetz, J. A. (APL), Arai, T. (Va. Tech. & State Univ.), and Frazer, R. K. (APL), "Penetration and Atomization of Liquid Jets Containing Gas Microbubbles for Cooling in Supersonic Flow."

Weckesser, L. B., Perini, L. L., Newman, R. W., and Tropf, W. J., "A Hypersonic IR Window Concept."

The following papers were presented at the American Statistical Assoc. Annual Meeting, Boston, Mass. (9-13 Aug 1992):

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

Maryak, J. L., "Isolating Errors in State-Space Models of Complex Systems: An Efficient Bayesian Approach."

Spall, J. C., and Cristion, J. A., "Nonlinear Adaptive Control Using Neural Networks."

Spall, J. C., Silberman, G. L., and Maryak, J. L., "Confidence Bounds for the Estimation Error in Adaptive Kalman-Type Filters."

## COLLOQUIA

11 Sep 1992—"Strategic Systems Department—The Challenges of the Past/The Promise of the Future," Introduction, D. L. Eddins; The Birth of SSD (1955-1964), J. M. Watson; APL Involvement in Containing Soviet Expansionism, R. L. Wil-

son; The 90's and Beyond, D. L. Eddins; APL.

2 Oct—"Nanomechanisms for Transporting Atoms, Molecules, and Other Small Objects," N. C. MacDonald, Cornell University.

9 Oct—"Aeronautics Department: From Bumblebee to the Twenty-First Century," Introduction, G. R. Garrtison; Engineering Programs in the Aero Department, J. T. Stadter; Applications of Fluid Dynamics, J. J. Wozniak; From COBRA to NASP: 48 Years of Ramjet Engine Development at The Applied Physics Laboratory, P. J. Waltrup; Meeting New Opportunities, F. G. Arcella; APL.

16 Oct—"Wavelets—An Overview," I. Daubechies, Rutgers Univ. and AT&T Bell Laboratories.

23 Oct—"The Mathematics of Card Shuffling and a Self-Organizing List Scheme," J. A. Fill, JHU.

30 Oct—"Polarization Vision," L. B. Wolff, JHU.