

PUBLICATIONS

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

Acuña MH, Russell CT, Zanetti LJ, and Anderson BJ

The NEAR magnetic field investigation: Science objectives at asteroid Eros 433 and experimental approach, *J. Geophys. Res.* **102**, 23,751–23,759 (1997).

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Energetic neutral atom imaging by the Astrid microsatellite, *Adv. Space Res.* **20**, 1055–1060 (1997).

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The space environment, *Johns Hopkins APL Tech. Dig.* **19**(1), 43–52 (1998).

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The field configuration of magnetic clouds and the solar cycle, in coronal mass ejections, *Geophys. Monograph* **99**, 137 (1997).

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Applications of Transit satellite technology to biomedical devices, *Johns Hopkins APL Tech. Dig.* **19**(1), 60–65 (1998).

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A fault tolerant integrated electronics module for small satellites, *Proc. 11th AIAA/USU Conf. on Small Satellites*, Logan, UT (Sep 1997).

Guier WH (APL, retired), and Weiffenbach GC (APL, retired)

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Iijima T, Potemra TA, and Zanetti LJ

Contribution of pressure gradients to the generation of dawnside region 1 and region 2 currents, *J. Geophys. Res.* **102**, 27,069–27,081 (1997).

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Synoptic auroral distribution: A survey using Polar ultraviolet imagery, *J. Geophys. Res.* **102**, 27,197–27,205 (1997).

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Accelerated second-order stochastic optimization using only function measurements, *Proc. 36th IEEE Conf. on Decision and Control*, San Diego, CA, pp. 1417–1424 (1997).
- Spall JC, and Chin DC**
Traffic-responsive signal timing for system-wide traffic control, *Transpn. Res.-C* **5**(3/4), 153–163 (1997).
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Demonstration of the “ring-of-fire” in fleet battle experiment—ALFA, *Proc. Precision Strike Technology Symp.*, Fairfax, VA, pp. 153–154 (1997).
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The application of SCRIMP VARTM fabrication technology to the compressed natural gas integrated storage system, *Composites for the Real World, Proc. 29th SAMPE ISTC*, pp. 67–76 (1997).

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Yionoulis SM (APL, retired)

The Transit satellite geodesy program, *Johns Hopkins APL Tech. Dig.* **19**(1), 36–42 (1998).

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PRESENTATIONS

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

Ali S

ISO 9000—Instrument calibration and documentation, *National Conf. of Standards Laboratories*, Boulder CO (Oct 1997).

Chang Y

Methods of scoring damage from hydrocode simulations of missile impacts, *Third Annual Chemical Flight Test Coordination Group Mtg.*, Huntsville, AL (2–3 Dec 1997).

Chin DC

Simultaneous perturbation stochastic approximation for a nonlinear regression, *1997 Mid-Atlantic Regional Probability and Statistics Day*, JHU/APL, Laurel, MD (18 Oct 1997).

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Evaluation and practical considerations for S-TRAC systemwide traffic signal control, *Transportation Research Board 77th Annual Mtg.*, Washington, DC (11–15 Jan 1998).

Cutchis PN, and Seegar WS

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Domingue DL

Europa and Ganymede: 18 years of ultraviolet observations with IUE, University of Arizona, Tucson, AZ (Dec 1997).

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The miniaturization of deep space telecommunications systems, *COSPAR Colloquium on Scientific Microsatellites*, Tainan, Taiwan (Dec 1997).

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A fault tolerant integrated electronics module for small satellites, *11th AIAA/USU Conf. on Small Satellites*, Logan, UT (Sep 1997).

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Hall DF (Aerospace Corp.), Cranmer JH, Sanders JT (Swales Aerospace Inc.), Benson RC, Boies MT (Physical Sciences, Inc.), Dyer JS (Utah State Univ.), Erlandson RE, Galica GE (Physical Sciences, Inc.), Green BD (Physical Sciences, Inc.), Griffith P (Ford Aerospace), Lesho JC (Sensors for Medicine and Science), Silver DM, Uy OM, and Wood BE (Arnold Engineering Development Ctr.)

MSX contamination experiment lessons for spacecraft design, fabrication, test and integration, *Aerospace Testing Seminar*, Manhattan Beach, CA (13–15 Oct 1997).

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Inequality-based reliability estimates for complex systems, *1997 Mid-Atlantic Regional Probability and Statistics Day*, JHU/APL, Laurel, MD (18 Oct 1997).

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An efficient optimization technique for image restoration, 1997 *Mid-Atlantic Regional Probability and Statistics Day*, JHU/APL, Laurel, MD (18 Oct 1997).

Some guidelines for using iterate averaging in stochastic approximation, *36th IEEE Conf. on Decision and Control*, San Diego, CA (10–12 Dec 1997).

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Recent advances in radar altimetry, *Electrical Engineering Colloquium*, University of Pennsylvania, Philadelphia, PA (Oct 1997).

The Magellan radar imaging mission to Venus, *IEEE Iowa-Illinois Section*, Bettendorf, IA (17 Nov 1997).

Rust DM

Report on the evolution of heliospheric structures from the Sun to the Earth using solar observations in global studies of the Sun-Earth system, *ISTP Science Workshop*, Goddard Space Flight Center, Greenbelt, MD (Nov 1997).

The solar stereo mission—A system for understanding space weather, *Optical Society of America Annual Mtg.*, Long Beach, CA (Oct 1997).

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Accelerated second-order stochastic optimization using only function measurements, *36th IEEE Conf. on Decision and Control*, San Diego, CA (10–12 Dec 1997).

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Simulation-based optimization of complex processes via the simultaneous perturbation method, *41st Annual Fall Technical Conf.*, Baltimore, MD (16–17 Oct 1997).

Simulation-based optimization of complex processes via the simultaneous perturbation method, 1997 *Mid-Atlantic Regional Probability and Statistics Day*, JHU/APL, Laurel, MD (18 Oct 1997).

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Demonstration of the “ring-of-fire” in fleet battle experiment—ALFA, *Precision Strike Technology Symp.*, JHU/APL, Laurel, MD (8–9 Oct 1997).

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Length determination of DNA fragments in atomic force microscope images, 1997 *IEEE Int. Conf. on Image Processing*, Santa Barbara, CA (Oct 1997).

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Wienhold PD, and Wozniak JJ

The application of SCRIMP VARTM fabrication technology to the compressed natural gas integrated storage system, *SAMPE ISTC*, Orlando, FL (28 Oct–1 Nov 1997).

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Innovative packaging of Ni–H batteries in small spacecraft: A thermal design perspective, *11th AIAA/USU Conf. on Small Satellites*, Logan, UT (Sep 1997).

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Anderson BJ, Mauk BH, Reynolds EL, Greenwald RA, Gold RE, Acuña MH, Borovsky JE, Burch JL, Waite JH, Young DT, Fuselier SA, Gurnett DA, Kurth WS, and Reiff PH

Auroral multiscale: Characterizing M–I coupling via multiprobe space observations.

Anderson KA, Lin RP, Gosling JT, Smith EJ, Armstrong TP, and Roelof EC

An unusual, CME related, energetic particle event.

Andrews GB, Dailey K, Dwyer JR, Gold RE, Heuerman KF, James TL, Kennedy M, Krimigis SM, LeFevre T, Malcom H, Mazur JE, Tossman B, and Walpole PH

First results from the Ultra Low Energy Isotope Spectrometer (ULEIS) instrument on the ACE spacecraft.

Borodkova NL, Zastenker GN, Romanov SA, Sibeck DG, Sauvaud JA, and Safrankova J

Gross deformation of the dayside magnetopause.

Carbary JF, Vervack R, Yee JH, Kumar K, Morgan F, Morrison D, Anderson DE, and Paxton LJ

Temperature profiles of the lower atmosphere using visible images of stellar occultation.

Decker RB, Krimigis SM, Hamilton DC, and Hill ME

Energetic ion fluxes at Voyagers 1 and 2 during 1992–1997.

El-Alaoui M, Ashour-Abdalla M, Raeder J, Peromian V, Bosqued JM, Williams DJ, and Lui ATY

Transport of high energy particles into the magnetotail.

Erlanson RE, Uy OM, and Grebowsky JM

Relationship between field-aligned currents and ion composition in the topside ionosphere.

Gary JB, Anderson BJ, Frahm RA, Sharber JR, and Winningham JD

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Gold RE, Lohr DA, Haggerty DK, Krimigis SM, Armstrong TP, and Lanzerotti LJ

First observations from the Electron, Proton, and Alpha Monitor (EPAM) on the ACE spacecraft.

Hamilton DC, Hill ME, Gloeckler G, Decker RB, and Krimigis SM

Evolution of the spectra of energetic ions in the outer heliosphere: 1992–1997.

- Hawkins SE, Cheng AF, and Lanzerotti LJ**
Global flows of hot plasma in Jupiter's magnetosphere.
- Higuchi T, and Ohtani S**
Development of an automatic procedure for identifying large-scale field-aligned current (FAC) structures.
- Jacquey C, Rouquette S, Louarn P, Angelopoulos V, Mozer FS, Kokubun S, Tsuruda K, Yamamoto T, Mukai T, Williams DG, McEntire RW, Lui ATY, Christon SP, Paterson WR, Frank LA, Reeves GD, and Hughes TJ**
Tailward energetic ion streams in the deep tail associated with substorms: Electromagnetic signatures.
- Kane M, Williams DJ, Roelof EC, Mauk BH, and McEntire RW**
Hot ion distributions in the outer Jovian magnetosphere from Galileo Energetic Particles Detector (EPD) measurements.
- Krupp N, Lagg A, Woch J, Wilken B, Livi S, and Williams DJ**
Energetic particle bursts in the predawn Jovian magnetosphere.
- Lloyd SA**
The sensitivity of the lower stratospheric radiation field to changes in surface reflectivity (albedo) and cloud height: Consequences for UTLS Nox Photochemistry.
- Lui ATY**
Correlative substorm observations.
- Lui ATY, and Ku HC**
Evolution of plasma sheet thinning during the substorm growth phase.
- Mauk BH, Williams DJ, and McEntire RW**
Storms in Jupiter's inner magnetosphere.
- McEntire RW, Mauk BH, Williams DJ, Roelof EC, Krimigis SM, Armstrong TP, Wilken B, Roederer JG, Fritz TA, and Lanzerotti LJ**
Observations of energetic particle composition and spectra by the Galileo Energetic Particles Detector (EPD).
- McNutt RL Jr, Mitchell DG, Keath EP, Paschalidis NP, Gold RE, and McEntire RW**
A compact particle detector for low-energy particle measurements.
- Mitchell DG, Paranicas C, Decker RB, and Anderson BJ**
Charged particle tracing in the near Earth plasma sheet.
- Ohtani S**
Tail current disruption: A cause or an effect?
- Ohtani S, and Takahashi K**
Earthward expansion of tail current disruption and particle injection.
- Paranicas C, Cheng AF, and Williams DJ**
Europa's electrical properties inferred from Galileo EPD data.
- Potemra TA, Zanetti LJ, Givens RB, Osiander R, Murphy JC, Kistenmacher TJ, and Wickenden DK**
Miniature magnetometers designed on xylophone resonators.
- Roelof EC**
Heliolatitude dependence of corotating interaction regions in energetic particles, cosmic rays, solar wind plasma, and magnetic field: Ulysses, 1993–1994.
- Roelof EC, Desai MI, and Simnett GM**
Jovian electrons as probes of low-rigidity propagation in the heliosphere.
- Roux A, Perraut S, Louarn S, Gurnett DA, Kurth WS, Kivelson MG, Mauk BH, and Williams DJ**
Interactions between the corotating Jovian plasma and the moons: What can be learned from the estimate of the index of refraction.
- Rust DM**
The solar stereo mission—A system for understanding space weather.
- Sibeck DG, Takahashi K, Kodubun S, Mukai T, Ogilvie KW, and Szabo A**
Alfvén waves in the magnetosheath.
- Takahashi K, Ohtani S, Sibeck DG, Spence HE, and Fennell JF**
CCE and SCATHA observations of energetic ions during the 1200 UT substorm on August 28, 1986.
- Williams DJ, Mauk B, and McEntire RW**
Galileo energetic particle measurements in Ganymede's magnetosphere.
- Woch J, Krupp N, Lagg A, Wilken B, Livi S, and Williams DJ**
The energetic particle environment in the Jovian magnetosphere: Galileo EPD observations.
- Yoon PH, and Lui ATY**
Cross-field current instability and substorm expansion onset.
- The following oral presentations were given at the 4th Symposium on Research and Development at The Johns Hopkins University Applied Physics Laboratory, Laurel, MD (19–20 Nov 1997):
- Barger CB, Colvin AE Jr (Sensors for Medicine and Science, Inc.), Givens RB, Miragliotta J, and Phillips TE**
A solid-state sensor platform for oxygen and other analytes.
- Becker JA**
Distributed processing with personal computers.
- Biermann PJ, Corvelli AA (JHU), Roberts JC, and Cranmer JH**
Processing and characterization of a PEEK composite segmental bone replacement.
- Bitman W**
Toward a formal framework to evaluate software component reusability.
- Bryden WA, Benson RC, Ko HW, Fenselau C (Univ. of MD, Baltimore County), and Cotter RJ (JHU School of Medicine)**
Tiny TOF mass spectrometer for biodetection.
- Charles HK Jr, Mach KJ, Edwards RL, Lehtonen SJ, and Lee DM**
Chip-on-board and MCM-D wirebonding.
- Chin DC, and Smith RH**
Evaluation and practical considerations for the S-TRAC system-wide traffic signal control.
- Donohue DJ, Ku HC, and Thompson DR**
Physical models for ocean radar backscatter statistics.
- Elfouhaily T, Thompson D, Chapron B (IFREMER/Centre du Brest), and Vandemark D (NASA/GSFC)**
Nonlinear wave theories applied to the electromagnetic bias problem in satellite altimetry.
- Fogel SA, DuBro J, Folkerts JT, Ginther MJ, Jenkins AL, and Uy OM**
Development of a wastewater ion exchange filtration system for submarine missile tubes.
- Gotwols BL, Chapman RD, and Thompson DR**
Ocean radar backscatter statistics: From mid-incidence to near grazing.
- Hattox TM**
Two-centimeter missile trajectory measurement demonstration: Methodology and results.
- Iannuzzelli RJ**
Results of the APL bistatic X-band vortex detection radar from C-130 flyovers at BWI airport.
- Jenkins A, Murray G, and Uy OM**
Devices to detect sarin and soman.

- Lin JS**
Signature classification development system.
- Lin T (JHU), Corvelli AA (JHU), Frondoza CG (JHU), Roberts JC, and Hungerford DS (JHU)**
Glass PEEK composite promotes proliferation and osteocalcin production of human osteoblastic cells.
- Love AE Jr**
Bayesian automatic classification of data.
- Maryak JL**
An efficient optimization technique for image restoration.
- Mechtel DM (US Naval Academy), Charles HK Jr, and Francomacaro AS**
Electro-optic probing for noninvasive high-speed testing of MCMs.
- Murray GM, Jenkins AL, Owens GS, and Uy OM**
Templated polymers for the selective sequestering and sensing of metal ions.
- Nelson CV, Jacobs BC, Roberts JC, Bevan MG, and Wilson DW**
A high-acceleration environment position and velocity sensor for use in automotive crash testing.
- Olsen DE, and Harris JC**
Polygraph programs at JHU/APL.
- Parthasarathy KN, McGrath BE, Frostbutter DA, and Wozniak JJ**
Development of a towed underwater launch platform.
- Pfister BJ, Bao G (JHU), and Roberts JC**
The effects of shear deformations and material selection on the bending and buckling behavior of rectangular sandwich plates.
- Pfister BJ, Roberts JC, and Nelson C**
Traumatic brain injury: The mechanics of diffuse axonal injury.
- Potember RS, Benson J (NSWC), and Foley P (NSWC)**
Enzymatic cleaning of ultrafiltration membranes used in graywater treatment.
- Raney RK**
The SAR scene, scanned.
- Roberts JC, Bao G (JHU), and White GJ (US Naval Academy)**
Experimental, numerical, and analytic results for bending and buckling of rectangular orthotropic plates.
- Russo AA**
Orbit-phone idea using mobile communication system satellites.
- Schoeberlein HC, and Baker MA**
Coherent noise cancellation of motion contamination in near-surface velocity measurements.
- Sommerer JC**
Qualitative uncertainty in nonlinear systems: The worst-case scenario for simulation.
- Spall JC**
Simulation-based optimization of complex processes via the simultaneous perturbation method.
- Terry DH, Wayland PS (JHU), and Thomas ME**
Imaging pyrometry of sapphire.
- Thomas ME, and Birnbaum G (NIST/MSEL)**
Absorption in the micro-window of the n4 band of methane.
- Thompson T**
Two-centimeter missile trajectory measurement demonstration: Purpose and configuration.
- Vasholz DP**
Application of Mathematica to a "difficult" integral.
Pixel voltages and sea surface perturbation expansions.
- Wienhold PD, Mehoke DS, Roberts JC, and Schaefer ED**
The design and fabrication of a low-cost spacecraft composite card cage.
- The following poster presentations were given at the 4th Symposium on Research and Development at The Johns Hopkins University Applied Physics Laboratory, Laurel, MD (19–20 Nov 1997):
- Ali S**
The future of quality and business management.
- Alvarez EB, and Schlemmer SE**
Advanced electronic design automation techniques.
- Asher MS**
GPS attitude determination multipath attenuation using predetect data, redundant antennas, and gyros.
- Bailey L, Beck T, Magee T, and Rooney M**
An adaptable three-dimensional model for the proximal femur for the investigation of the mechanical implications of altered bone mass and structural geometry.
- Bankman IN**
A model of ladar range-Doppler returns from ballistic missile warheads and boosters.
- Beser N, and Grabow B**
Video rate image processing.
- Bevan MG**
Complex fatigue of solder joints.
- Bierbaum MM, and Duncan D**
Use of polarization in the theater ballistic missile defense infrared discrimination problem.
- Bythrow PF, Dove RE, Goldfinger AD, and Oursler DA**
Visible wavelength sensors for rapid detection/identification of ballistic missile launch and battlefield characterization.
- Cesar-Spall K (Professional Oboist), and Spall JC**
Regression analysis as an aid in making oboe reeds.
- Chin DC**
Simultaneous perturbation stochastic approximation for a nonlinear regression in the magnetospheric image setting.
- Chin DC, Ball RE, and Srinivasan R**
Electrical conductivity object locator.
- Chin DC, and Smith RH**
Evaluation and practical considerations for the S-TRAC system-wide traffic signal control.
- Clatterbaugh GV, Grabow BE, Jablonski DG, and Vichot PA**
High-speed serial-to-parallel converter.
Superconducting crossbar clock fanout and support circuitry.
- Cohen PH, and Zakens CP**
Assessment of the sealed coating quality of anodized aluminum.
- Coury B, Dykton M, Sadowsky J, Schuster P, and Vick S**
Multimodal interaction with a computer system.
- DeMajistre A**
Eliminating the Webmaster bottleneck by designing a Website for diverse authoring groups.
- Edwards RT (JHU), Pineda FJ, and Cauwenberghs G (JHU)**
Pattern recognition algorithms for micropower applications.
- Elkiss DR, and Fetter JE**
Application of technology to home health care.
- Fainchtein R, Marohn JA, and Smith DD (US Army Research Laboratory)**
Mechanically detected magnetic resonance: On the road to nanoscale nuclear magnetic resonance.

- Feldmesser HS, Lehtonen SJ, Dietrich AE, Folkerts JT, Lee DM, and Mach KJ**
Advances in chip-on-board packaging in the Electronic Services Group.
- Fischer DG**
A maximum entropy algorithm for diffraction tomography.
Theory of diffraction tomography for random media.
- Fogel SA, Weiskopf FB, Koczaja DL, Poland DD, Pandolfini PP, Hunter LW, White JW, Palmer JV, Srinivasan R, Teagle DE, Lin JS, and Coury BG**
Trident II launcher integrated diagnostics demonstration.
- Francomacaro AS**
Thick- and thin-film multichip modules in the Electronic Services Group.
- Francomacaro AS, and Lehtonen SJ**
Advanced thick-film substrate fabrication in APL's Electronic Services Group.
- Freund DE, Joseph RI (JHU), Donohue DJ, and Constantikes KT**
Numerical computations of rough sea surface infrared emissivity.
- Gauthier LR, Land HB, and Wenstrand DS**
Arc test facility of the Research and Technology Development Center.
- Givens RB, Osiander R, Murphy JC, Kistenmacher TJ, Wickenden DK, Oursler DA, Lohr DA, and Zanetti LJ**
Miniature magnetometer designed on a xylophone bar resonator: Fundamentals.
- Green WJ, Edwards RL, Christens-Barry WA, and Donohue DJ**
Experimental rough surface scattering: Sample preparation and measurements.
- Hill SD, and Spall JC**
Inequality-based reliability estimates for complex systems.
- Jenkins A, Murray G, and Uy OM**
Devices to detect sarin and soman.
- Jenkins RE, and Fraeman ME**
The JHU/APL integrated electronics module for small satellites.
- Joseph RI (JHU), Thomas ME, and Miragliotta JA**
Time domain characterization of opto-electronic materials.
- Josephson KL**
Handling and storage of electronic assemblies containing plastic-encapsulated electronic components prior to conformal coating.
- Kitzman KV, and Fry RL**
Quantitative basis for two-color IR band selection.
- Kleinman NL, Hill SC, and Ilenda VA**
SPSA/SIMMOD optimization of air traffic delay.
- Kues H, Bevan MG, and Monahan JC (FDA)**
Remote physiological monitoring.
- Le BQ, Nhan E, Maurer RH, Lew AL, Lehtonen SJ, Conde RF, and Schwartz PD**
Reliability and applications of chip-on-board technology in spaceborne electronics.
- Levy LJ**
System identification for cascaded filter modeling.
- Lin TW (JHU), Corvelli AA (JHU), Frondoza CG (JHU), Roberts JC, and Hungerford DS (JHU)**
Enhanced matrix production and proliferation of human osteoblastic cells propagated on a glass PEEK implant disc.
- Mayfield J, and McNamee P**
Words vs. N-grams for information retrieval.
- Mishin GI**
Equation of state for a gas-discharge plasma.
- Murchie SL, Cheng A, and Veverka J (Cornell Univ.)**
The Comet Nucleus TOUR: A mission to study the diversity of comet nuclei.
- Nelson CV, Jacobs BC, Roberts JC, Bevan MG, and Wilson DW**
A high-acceleration environment position and velocity sensor for use in automotive crash testing.
- Nelson JB**
A more powerful random-search optimization method.
- Newman F, Biondo A, Croucher A, Spall J, and Matthews C (NAWCTSD)**
Methodology to improve environmental and sensor representations in advanced simulations.
- Oursler DA, Lohr DA, Zanetti LJ, Givens RB, Osiander R, Murphy JC, Kistenmacher TJ, and Wickenden DK**
Miniature magnetometer designed on a xylophone bar resonator: Space applications.
- Owens GS, Bailey LE, Uy OM, Murray GM, and Salazar JD (JHU School of Medicine)**
Blood iron filter.
- Resch CL**
Neural network for exo-atmospheric target discrimination.
- Ross CA**
Extended echo ranging (EER) aural and visual support trainer (AVST).
- Rust DM, and McNutt RL Jr**
Neutrinos and helical magnetic fields on the Sun: Results of observations.
- Sadowsky J**
Data-derived adaptive wavelet transform design.
- Spall JC, Maryak JL, and Asher MS**
Neural network approach to locating acoustic emission sources in nondestructive evaluation.
- Spicer JWM, Givens RB, Kardian CJ Jr, Rooney M, and Cusick RT**
Thermographic method for determining thermocouple location.
- Spisz TS, Fang Y (JHU School of Medicine), Hoh JH (JHU School of Medicine), Seymour CK, D'Costa N (JHU School of Medicine), Reeves RH (JHU School of Medicine), and Bankman IN**
Length determination of DNA fragments in atomic force microscopic images.
- Stoianovici D (JHU), Cadeddu JA (JHU), Taylor RH (JHU), Whitcomb LL (JHU), Kavoussi LR (JHU), Demaree RD, and Basile SA**
Percutaneous access to the kidney (PAKY).
- Wajer SD**
Compositional analyses using backscattered secondary electrons and X-ray photons.
- Wenstrand DS, Schneider W, Land HB, and Klimek JM**
A microcomputer-based sensor monitoring system for shipboard fire prevention.
- West RL**
A genetic algorithm-based laydown optimizer for use in evaluating BMD performance.
- Wienhold PD, and Wozniak JJ**
The development of the compressed natural gas integrated storage system.

COLLOQUIA

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

14 Nov 1997

Atmospheric Dynamics Observed by GOES Satellites, AF Hasler, Goddard Space Flight Center, NASA

21 Nov

Vibrational Dynamics and Laser Surgery, GS Edwards, Vanderbilt University

5 Dec

Think Small to Improve MRI, R Fainchtein, APL

12 Dec

Microgravity Experiments: Adventures of an Astronaut, R Crouch, NASA

19 Dec

The Role of Scientific Societies in the Changing World, MH Brodsky, American Institute of Physics

9 Jan 1998

Hidden Information in Financial Data, A Weigend, New York University

16 Jan

Global Warming, JC Taylor, Cato Institute

23 Jan

Quantum Computers, CH Bennett, IBM

30 Jan

Death and Taxes: Nets and Caches, DE Keyes, Old Dominion University and NASA Langley Research Center

13 Feb

Image Grand Tour, EJ Wegman, George Mason University