

PUBLICATIONS

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

Alexeev II, Sibeck DG, and Bobrovnikov SY

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Gary JB, Zanetti LJ, Anderson BJ, Potemra TA, Clemmons JH, Winningham JD, and Sharber JR

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PRESENTATIONS

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

Anderson BJ, and Takahashi K
Pitch angle effects in substorm ion injections, *Dartmouth College Space Physics Seminar*, Hanover, NJ (28 Apr 1998).

Asher MS
Proposed improvements in precise GPS attitude determination using predetect data, gyro data, and redundant antennas, *AAS 13th Int. Symp. on Space Flight Dynamics*, Goddard Space Flight Center, Greenbelt, MD (13 May 1998).

Ashraf MF (Wilmer Eye Inst.), McCally RL, Markam R (Johns Hopkins School of Public Health), and O'Brien TP (Wilmer Eye Inst.)
Potential for liberation of HIV viral particles from human corneas during excimer keratectomy, *Assoc. for Research in Vision and Ophthalmology Annual Mtg.*, Ft. Lauderdale, FL (10–15 May 1998).

Biermann PJ
Optimized non-autoclaved molding using smart embedded sensors, *Mantech Review Panel*, Crystal City, VA (28 May 1998).

Biermann PJ
Review of environmental issues affecting the fabrication and maintenance of advanced composite structures on the F/A-18 E/F, *NAVAIR Legal Council Training*, Pax River NAS (19 Jun 1998).

Biermann PJ
JHU/APL tasks for the Applied Research on Remotely-Queried Embedded Microsensors Program, *Quarterly Program Review*, Chicago, IL (26 Jun 1998).

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Faster, better, cheaper—What really works?, *Small Satellite Workshop*, Goddard Space Flight Center, Greenbelt, MD (19 Mar 1998).

Cameron GE, and Marshall MH
Exploring the practical limits of operations autonomy, *5th Int. Symp. on Space Mission Operations and Ground Data Systems*, Tokyo, Japan (3 Jun 1998).

Dove WC, and Mitnick WL
The TIMED mini-MOC and beyond, *21st Int. Symp. on Space Technology and Science*, Sonic City, Omiya, Japan (24–31 May 1998).

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The TIMED mini-MOC and beyond, *Space Ops 98*, Tokyo, Japan (1–5 Jun 1998).

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Near Earth Asteroid Rendezvous (NEAR) and Comet Nucleus TOUR (CONTOUR), *Computer Sciences Corp., Applied Research Seminar*, Lanham-Seabrook, MD (20 May 1998).
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Effects of fibril anisotropic permittivity and hydration on corneal birefringence, *Assoc. for Research in Vision and Ophthalmology Annual Mtg.*, Ft. Lauderdale, FL (10–15 May 1998).
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The submarine in chem/bio defense, *Submarine Technology Symp.*, JHU/APL, Laurel, MD (13–15 May 1998).
- Hill SD**
Inequality-based reliability estimates for complex systems, *Reliability Seminar*, Univ. of Maryland, College Park (19 Mar 1998).
- Hill SD**
Inequality-based reliability of complex systems, *Statistics Seminar*, Univ. of Maryland, Baltimore County (24 Apr 1998).
- Hill SD**
Optimization of discrete event systems via simultaneous perturbation, *IIE Conf.*, Banff, Alberta, Canada (9 May 1998).
- Hunt JW**
Advanced Composition Explorer (ACE) overview, *SAE Aerospace Control Guidance Systems Committee Mtg.*, Colorado Springs, CO (10–13 Mar 1998).
- Libershal DM**
Lessons learned implementing Call Tracking with Remedy, *SANS 98 Conf.* Monterey, CA (13 May 1998).
- Luman RR**
Quantitative decision support for upgrading complex systems of systems, *66th Military Operations Research Society Symp.*, Monterey, CA (24 Jun 1998).
- Mauk BH, Krimigis SM, Mitchell DG, Roelof EC, Keath EP, and Dandouras DJ**
Update on the imaging of Saturn's dust rings using energetic neutral atoms, *Int. Galileo/Cassini Symp.*, Nantes, France (11–15 May 1998).
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In-situ spectrometry of neutrons, *Annual Report to the National Space Biomedical Research Institute*, Houston, TX (8–11 Jun 1998).
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The CONTOUR NASA Discovery mission, *21st Int. Symp. on Space Technology and Science*, Omiya, Japan (24–31 May 1998).
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The rational use of plastic parts in satellites, *1998 IEEE Frequency Control Symp.* (1998).
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How solving linear equations can benefit from differential equations, *ILAS 98 Conf.*, Univ. of Wisconsin, Madison, WI (3–6 Jun 1998).
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Neural network for exo-atmospheric target discrimination, *SPIE Aerosense '98 Automatic Target Recognition VIII*, Orlando, FL (13 Apr 1998).
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The CONTOUR NASA Discovery mission, *AAS 13th Int. Symp. on Space Flight Dynamics*, Goddard Space Flight Center, Greenbelt, MD (13 May 1998).
- Rodberg EH**
The ground system used to test the Advanced Composition Explorer Spacecraft, *21st Int. Symp. on Space Technology and Science*, Sonic City, Omiya, Japan (24–31 May 1998).
- Rust DM**
In search of solar magnetism, *Physics Department Colloquium*, University of Delaware, Newark (4 Mar 1998).
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NASA's Solar STEREO mission, *Congress on European Solar and Heliospheric Physics: Recent Achievements and Future Mission Possibilities*, Puerto de la Cruz, Tenerife, Spain (24 Mar 1998).
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A full caliber motor for standard missile, *11th Multinational Conf. on Theater Missile Defense*, Monterey, CA (1–4 Jun 1998).
- Silberberg DP, and Semmel RD**
A role-based semantics for conceptual-level queries, *Fifth Intl. Workshop on Knowledge Representations Meets Databases*, in conjunction with ACM SIGMOD/PODS '98, Seattle, WA (31 May 1998).
- Silberberg DP and Semmel RD**
Using relationship roles to disambiguate conceptual-level queries, *Tenth Intl. Conf. on Software Engineering and Knowledge Engineering*, San Francisco, CA (19 Jun 1998).
- Sommerer JC**
Prospects for nonlinear analysis of warfare, *Inst. for Defense Analysis Colloq.* IDA, Arlington, VA (22 Jun 1998).
- Spall JC**
Gaussian-based estimation in a non-Gaussian world: What can we say?, *The American Statistical Association- Maryland Chapter*, Ellicott City (7 May 1998).
- Suter JJ, and Bhatnagar V**
Imaging through optically opaque barriers with micro and millimeter waves, *SPIE's AeroSense Conf.*, Orlando, FL (13–17 Apr 1998).
- Suter JJ, Lew AL, and Darrin A**
The integrated power source™ polymer battery technology, *Technology Showcase '98*, NASA/GSFC, Greenbelt, MD (25–26 Mar 1998).
- Therault ML**
DBA 101: A refresher course, *Northeast Oracle User Group Mtg.*, Boston, MA (7 Apr 1998).
- Therault ML**
Challenges facing the Oracle 8 DBA, *European Oracle User Group Conf.*, Vienna, Austria (23 Apr 1998).

Theriault ML
Oracle-supplied tuning tools for Oracle 8, *European Oracle User Group Conf.*, Vienna, Austria (23 Apr 1998).

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The Oracle enterprise manager, *European Oracle User Group Conf.*, Vienna, Austria (25 Apr 1998).

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What's new on the Oracle 8 backup scene?, *IOUG-A Live Conf.*, Orlando, FL (11 May 1998).

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Challenges facing the oracle 8 DBA, *New York Oracle User Group Mtg.*, New York (22 Jun 1998).

Wienhold PD, and Roberts JC
Compression testing of large composite panels, *U.S. Pacific Rim Workshop on Composite Materials*, Honolulu, HI (6-9 Apr 1998).

The following papers were presented at the 4th International Conference on Substorms (ICS-4), Lake Hamana, Japan (9-13 Mar 1998):

Lester M, Baker K, Brittnacher M, Greenwald RA, Lepping R, Sofko G, and Villain J-P
Polar, IMP-8 and SuperDARN observations of substorm growth and expansion phase signatures.

Lui ATY
On the current disruption model for substorms.

Lyons LR, Baker KB, and Deehr CS
Substorms: The result of IMF-driven reductions in large-scale convection.

Meng C-I, Liou K, Newell PT, Lui ATY, Nose M, Parks G, and Brittnacher M
A fresh look at substorm onset identifiers.

Nakamura R, Kokubun S, Bargatze LF, Mukai T, Yamamoto T, Nagai T, Baker KB, Hairston MR, Reiff PH, Petrukovich A, Nozdachev M, and Troshichev OA
Response of the mid-tail lobe/plasma sheet electric field to enhanced solar wind energy input: The November 22, 1995 event.

Newell PT, Liou K, and Meng C-I
Evidence that ionospheric conductivity controls intense auroral activity.

Ohtani S
Earthward expansion of tail current disruption: Dual-satellite study.

Ohtani S, Takahashi K, Higuchi T, Lui ATY, Spence HE, and Fennell JF
Can tail current disruption be described in the MHD framework?

Ruohoniemi JM, and Greenwald RA
Convection dynamics at substorm onset observed by SuperDARN.

The following papers were presented at the 3rd IAA International Conference on Low-Cost Planetary Missions, California Institute of Technology, Pasadena (27-30 Apr 1998):

Bokulich RS, Jensen JR, and Flaherty MK
Transceiver-based spacecraft telecommunication systems with two-way Doppler tracking capability.

Brinckerhoff WB, McEntire RW, Cheng AF, and Managadze GG
Laser ablation time-of-flight mass spectrometer for elemental and isotopic analysis.

Carr PD, Kowal CT, Mulich TJ, and Posner AS
NEAR cruise and Mathilde flyby mission operations—Report from the front lines of low-cost missions.

Farquhar RW, and Dunham DW
The Indirect Launch Mode (ILM): Better and cheaper.

Harch A, and Heyler GA
Design and execution of the asteroid Mathilde flyby.

Jaskulek S, and Hauck T
Scaleable spacecraft simulator for small missions.

The following papers were presented at the American Geophysical Union Spring Meeting, Boston, MA (26-29 May 1998):

Anderson BJ, Zanetti LJ, Acuña MH, Russell CT, and Mulligan T
Magnetic field observations from NEAR and Polaris during the NEAR Earth flyby on January 22-23, 1998.

Baker KB, and Curtis SA
End-to-end study of energy flow using simulations and data.

Christon SP, Gloeckler G, Eastman TE, Williams DJ, McEntire RW, Roelof EC, Lui ATY, and Nylund SR
On the distribution of high charge state solar wind origin carbon and oxygen ions in the magnetosphere: Geotail spacecraft observations.

Eastman TE, Roelof EC, McEntire RW, Lui ATY, Williams DJ, and Christon SP
Geotail/EPIC observations of energetic proton anisotropy in the magnetotail lobe region.

Elliott HA, Comfort RH, Craven PD, Baker KB, Moore TE, and Russell CT
Simultaneous ion convection in the polar magnetosphere and ionosphere.

Erlanson RE, Ukhorsky A, and Giles BL
Characterization of EMC waves during the recovery phase of geomagnetic storms.

Hirsch KL, Eccles AA, Spence HE, Roelof EC, Christon SP, and Eastman TE
Two-point mapping of auroral field lines using magnetic conjunctions of two ISTP spacecraft.

Jorgensen AM, Spence HE, Henderson MG, Reeves GD, and Roelof EC
Relations between the Dst index and energetic neutral atom (ENA) emissions from the ring current.

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- Rust DM**
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- Sanchez ER, Baker KB, Borovsky J, Thomsen M, Mukai T, and Saito Y**
On the relationship between ionospheric and magnetospheric convection during the passage of solar wind disturbances.
- Skinner AJ, and Roelof EC**
Automated extraction of energetic ion intensities from energetic neutral atom (ENA) images.
- Sotirelis T, Newell PT, and Meng C-I**
Model of auroral electron precipitation.
- Takahashi K, and Anderson BJ**
Quantitative explanation of reverse pitch angle dispersion ion injection signatures.

The following papers were presented at the American Control Conference, Philadelphia, PA (25 Jun 1998):

- Biermann PJ, Cranmer JH, Lebowitz CA (Edison Welding Inst.), and Brown LM (NSWC Carderock)**
Installation and testing of an ultrasonic end-of-cure sensor in an autoclave environment.
- Hill SD, and Spall JC**
Inequality-based reliability estimates for complex systems.

- Maryak JL**
An efficient optimization technique for image restoration.
- Sadegh P (Technical Univ. of Denmark), and Spall JC**
Optimal sensor configuration for complex systems.
- Spall JC**
Resampling-based calculation of the information matrix for general identification problems.

COLLOQUIA

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

- 2 October 1998**
Why Global Warming is a Controversial Issue, SG Philander, Princeton University
- 9 October 1998**
Radar Propagation and Scattering from Ocean and Terrain, DJ Donohue, APL
- 16 October 1998**
MRI Methods for Studying Brain Functions, PC vanZijl, JHU School of Medicine
- 23 October 1998**
Protein/Receptor Matching, MF Shlesinger, Office of Naval Research
- 30 October 1998**
The Impact of Comets and Asteroids upon the Earth, DK Yeomans, Jet Propulsion Laboratory

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