PUBLICATIONS

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

Allen RJ, Heaton HI, and Kaufman MJ

Antoine MD, Carlson MA, Drummond WR, Doss OW III, Hayek CS, Saksena A, and Lin JS

Benmohammed L, Mokhtar A, and Bortz M

Bitman WR


Boyd JW, Cobb GP, Southard GE, and Murray GM

Brandt PC, Roelof EC, Ohtani S-I, Mitchell DG, and Anderson BJ

Chisham G, Freeman MP, and Sotirelis T

DeMajistre R, Paxton LJ, Morrison D, Yee J-H, Goncharenko LP, and Christensen AB

DeMajistre R, Roelof EC, Brandt PC, and Mitchell DG

Demirev PA, Feldman AB, and Lin JS

Ecclesberger SA, Cornish TJ, Collins BF, Lewis DL, and Bryden WA

Feldman PD, Strobel DF, Warren MH, and Weaver HA

Franson JD, Donegan MM, and Jacobs BC

Fuechsel PG, Ondercin DG, and Schumacher C

Georgoulis MK, LaBonte BJ, and Metcalf TR

Hosaka K, Crosby DN, Gaarde-Widdowson K, Smith CJ, Silver JD, Kinugawa T, Ohtani S-I, and Meyers EG

Jackman J, and Moss O

Karadamoglou K, Paschalidis N, Stamatopoulos N, Kottaras G, Sarris E, and Paschalidis V


Ko HW

Korth H, Anderson BJ, Frey HU, Immel TJ, and Mende SB

McGrath BE, and Appelbaum GI


McNutt RL Jr, Solomon SC, Grard R, Novara M, and Mukai T

Monaldo FM, Thompson DR, Pichel WG, and Clemente-Colón P

Najmi AH, and Magruder SF

Nelson CV

Ohtani S, Shay M, and Mukai T

Raney RK
From space into the abyss, Keynote Address, J. Scholarly Endeavor IV, 45–51 (2004).
Roelof EC, Brandt PC, and Mitchell DG  

Saur J  

Saur J  


Sharma AS, Ukhorskiy AY, Sitnov MI, and Valdivia J  

Smith DC, Ghosh S, Dmitruk P, and Matthaeus WH  

Snigdha CA  

Strickland DJ, Lean JL, Meier RR, Christensen AB, Paxton LJ, Morisson D, Craven JD, Walterscheid RL, Judge DL, and McMullin DR  

Theodore ML, Jackman J, and Bethea WL  

Vlahos L, and Georgoulis MK  

Walts SC, Mitchell CA, Thomas ME, and Duncan DD  

Watters TR, Robinson MS, Bina CR, and Spudis PD  


Wu C-C, Liu K, Lepping RP, and Meng C-I  

Yamaguchi R, Kawano H, Ohtani S, Kokubun S, and Yamoto K  

Zhu X  

Zhu X  

The following papers appeared in conference proceedings:

Georgoulis MK  

McCubbin CB, Piatko CD, and Marshall SJ  

Patrone DM, Patrone DS, Wenstrand DS, Smith DG, and Hawthorne RC  

Ramella-Roman JC  
Influence of anisotropy in the depolarization ability of microsphere solutions, OSA Biomedical Optics Topical Mtg., Tech. Dig. FH44, Miami, FL (Apr 2004).

PRESENTATIONS

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

Castle MW  

Decker RB, Roelof EC, and Krimigis SM  

Fleischer MA  
Unifying form and function in multi-objective math programs, presented to the Department of Systems Engineering, University of Virginia, Charlottesville, VA (Apr 2004).

Franson JD  
Quantum information processing with linear optics and the Zeno effect, Workshop on Quantum Information Processing with Linear Optics, Erlangen, Germany (Apr 2004).

Franson JD, Jacobs BC, and Pittman TB  
Hybrid optical approach for optical quantum computing, CLEO/IQEC Conf., San Francisco, CA (May 2004).

Frazer RK, Keane BT, Kouroupis JB, Barlett RF, Patterson MQ, Staton FN, and Stevens PF  
Aerothermal analysis and testing of a deployable nosecone, 10th DoD Electromagnetic Windows Symp., Norfolk, VA (May 2004).

Kil H  

Kottaras G, and Paschalidis N  
Signals from the termination shock: Recent Voyager observations, European Geosci. Union, 1st General Assembly, Nice, France (Apr 2004).

Land HB III, and Eddins CL  
Optical ignition status monitoring for hypersonic vehicles, 50th Int. Instrumentation Symp., San Antonio, TX (May 2004).

Lario D  
Mazzafro JM  

McCally RL  

McCubbin CB, Piarko CD, and Marshall SJ  

McGrath BE, Appelbaum GI, and Rackelshaus KA  

Michaelis CH  
Kill assessment observations and analysis, preented to the Air Force Space Command, Peterson AFB, Colorado Springs, CO (Mar 2004).

Miraglia J, and Sample JL  
Optical sensing of chemical and biological analytes using enhanced Raman scattering from periodic arrays of silver and gold, SPIE Photonics West 2004, San Jose, CA (Jan 2004).

Moor AF, and Hardesty RE  

Moss OR, Boggs NT, and Jackman J  

Patrone DM, Patrone DS, Wenstrand DS, Smith DG, and Hawthorne RC  

Pittman TB, Jacobs BC, and Franson JD  

Proctor L, and Figueredo PH  
Geological features and resurfacing history of Europa, Workshop on Europa’s Icy Shell: Past, Present and Future, Houston, TX (Feb 2004).

Raney RK  
From space into the abyss, Keynote Address, presented at Slipppery Rock University, PA (Mar 2004).

Rebello K, Moran M, Wesolek D, Berhane B, and Darrin A  

Roelof EC, Decker RB, and Krimigis SM  
Voyager-1/LECP energetic ion angular distributions at 85-88 AU are inconsistent with diffusion-convection theory, European Geosci. Union, 1st General Assembly, Nice, France (Apr 2004).

Shin C, McGown D Jr, Wolf F, Shaw J, and Jackman J  
Rapid detection of agricultural bioterrorism agents, 2nd Joint Conf. on Point Detection for Chemical and Biological Defense, Williamsburg, VA (Mar 2004).

Smart JH  
How accurately can we predict near-bottom optical clarity in the littorals, NDIA USW, Monterey, CA (Mar 2004).

Smith DC, Ghosh S, Dmitruk P, and Matteaus WH  
Hall and turbulence effects on magnetic reconnection, Am. Geophys. Union Fall Mtg., San Francisco, CA (Dec 2003).

Southard GE, and Murray GM  

Spies TC  
Determination of bone structural parameters from multiple projection DXA images, SPIE Int. Symp. on Medical Imaging, San Diego, CA (Feb 2004).

Taylor JC, and Bierbaum MM  

Taylor JC, and Michaelis CH  

Tejada F, Wesolek DM, Lehtonen J, Miragliotta JA, Andreou AG, and Osander R  
An SOS MEMS interferometer, SPIE Photonics West, San Jose, CA (Jan 2004).

Tennyson PD  
Operation small space, presented to Air Force Res. Laboratory Responsive Workshop, Arlington, VA (Mar 2004).

Tennyson PD  
Role of small space in transforming missilespace capabilities, Joint Forces Command Space Application Experiment Cell Space Concept Workshop, Suffolk, VA (Mar 2004).

Ukhorskiy AY, Brandt PC, and Ohlman S-J  
The relation between ring current and relativistic electron dynamics in the Earth’s outer radiation belt, 30th Anniversary Yosemite Workshop, Inner Magnetosphere Interactions, Yosemite National Park, CA (Feb 2004).

Voo LM, Merkle A, Wright J, and Kleinberger M  

Weiskopf K, Cain R, Murray G, and Carkhuff B  

Wing SP, Newell PT, and Meng C-I  
Imaging the magnetotail, Space and Cosmic Ray Phys. Seminar, University of Maryland, College Park, MD (Feb 2004).

Wing SP, Newell PT, and Meng C-I  

Wing SP, Jen J, Johnson JR, Meng C-I, Carr SS, Sibeck DG, Bechtold K, Freeman J, Costello K, Balikhin M, and Vandegejf K  

The following papers were presented at the IEEE Aerospace Conf., Big Sky, MT (Mar 2004):

MESSENGER mission: First electronically steered antenna for deep space communications.

DeBoy CC, Haskins CB, Brown TA, Schulze RC, Bernacik MA, Jensen JR, Millard WP, Duvan D, and Hill S  
The RF telecommunications systems for the New Horizons mission to Pluto.

Haskins CB, and Millard WP  
X-band digital receiver for the New Horizons spacecraft.

Karadakoglou K, Paschalidis N, Stamatopoulos N, Kottaras G, Paschalidis V, and Sarris E  
A 32 bit high resolution, asynchronous time to digital converter for space instruments.
The following papers were presented at the

Kotaras G, Paschalidis N, Sarris E, Stamatopoulos N, Karadamoglou K, and Paschalidis V
The TRIO smart sensor data acquisition system on a chip for space applications.

Meitler RC
Spice macro models for annular MOSFETs.

Schulz RC, and Hill S
The New Horizons high gain antenna: Reflector design for a spin-stabilized bus at cryogenic temperatures.

Stader PA, Asher MS, Kusterer TL, Moore GT, Watson DP, Pekala ME, Harris AJ, and Bristow JO
Half-duplex relative navigation and flight autonomy for distributed spacecraft systems.

The following papers were presented at the Int. Conf. on Substorms-7, Levi, Finland (Mar 2004):

Gjerloev JW, Hoffman RA, Friel M, Sigwarth JB, and Frank LA
Electrodynamics of storm time auroral disturbances.

Gjerloev JW, Hoffman RA, Friel M, Sigwarth JB, and Frank LA
Refining and understanding the auroral electrojet index AL.

Gjerloev JW, Tanskanen E, Slaven JA, Fairfield DH, Sibeck DG, Mukai T, Ieda A, and Nagai T
Geotail observations of plasma sheet convection during loading, unloading, and continuous magnetospheric dissipation.

Ohtani S-I, and Raeder J
Comparison between observations and two fluid simulations.
The temporal structure of the fast plasma flow in the plasma sheet: The role of near-Earth reconnection in the substorm initiation.

Ohtani S-I, and Raeder J
The role of near-Earth reconnection in the substorm initiation.

Ohtani S-I, Shay M, and Mukai T
The temporal structure of the fast plasma flow in the plasma sheet: Comparison between observations and two fluid simulations.

The following papers were presented at the Joint Assembly of the Am. Geophys. Union Spring Mtg., Montreal, Canada (17-21 May 2004):

Akmaev RA, Fomichev VI, Zhu X, and Ogibalov VP
Effect of middle-atmosphere greenhouse cooling on global change in upper atmosphere.

Anderson BJ, and Korth H
Simultaneous global-scale observations of field aligned currents in the Northern and Southern hemispheres.

Brandt PC, Roelof EC, DeMajistre R, and Mitchell DG
Ring current pressure distributions in the inner magnetosphere during storm mainphases.

Electrical currents from global ENA images.

Brandt PC, Roelof EC, DeMajistre R, Mitchell DG, and Anderson PC
On the relation between the electric fields, ring current, ionosphere and plasmasphere.

HST STIS observations of Saturn’s auroral complexes concurrent with the Cassini solar wind campaign in January 2004.

The solar wind upstream of Saturn: Cassini plasma measurements and Saturn’s aurora.

Cravens TE, Waite JH, Lugaz N, Gombosi TI, Gladstone GR, Mauk BH, and MacDowall RJ
Implications of Jovian x-ray emission for magnetosphere-ionosphere coupling.

Decker RB, Krimigis SM, and Roelof EC
Voyager 1 in the vicinity of the termination shock: An update on energetic ion distributions observed during 2002.6-2004.3.

Donegan MM, Vegriff J, Ho CC, and Wagstaff KL
Real-time upstream monitoring system: Predicting interplanetary shock arrivals using energetic particle data from ACE.

Impact of fast CMEs on ring current during October-November 2003 superstorms.

Fieseler PD, Thomas AP, Wadley S, and McEntire RW
The detection of moonlets near Amalthea.

Fry CD, Dryer M, Sun W, Deehr CS, Akasofu SI, McKenna-Lawlor S, and Lario D
Predicting solar wind conditions at Mars.

Fujimori T, Nosé M, Keika K, McEntire RW, Takahashi K, and Ohtani S-I
Charge states of O and He ions injected at substorm onset: Geotail/EPIC observation.

Grant JA, Maxwell TA, Johnston AK, Leuschen CJ, Schutz AE, and Williams KK
Using ground penetrating radar to constrain the drainage evolution in southern Egypt and implications for future deployment on Mars.

Haggerty DK, and Roelof EC
Effective drift velocity and initiation times of interplanetary type-III radio bursts.

Hamilton DC, Krupp N, Mitchell DG, and Krimigis SM
Shock events at Cassini associated with the October-November 2003 solar flares.

Hill ME, Hamilton DC, and Krimigis SM
Ion energy spectra observed during the termination shock events at Voyager 1.

Ho GC, Roelof EC, and Mason GM
Upper limit on 3He fluxes in solar energetic particle events.

Johnson JR, and Wing S
Cumulant-based characterization of nonlinear magnetospheric dynamics.

Lario D, Livi S, Krimigis SM, McKibben RB, MacKinnon CG, Reisenfeld DB, de Koning C, Russell CT, and Dougherty MK
Heliospheric energetic particle observations during the October-November 2003 superstorm events.

Conductance effects on inner magnetospheric plasma morphology: Model comparisons with IMAGE EUV, MENA, and HENA data.

Global ionospheric and magnetospheric response to the October-November 2003 geomagnetic storm.

Lui ATY, Hsieh S, Carr SS, and Meng C-I
Long-term prediction of MeV electrons in geostationary orbit.

Mauk BH, and Mitchell DG
Satellite-magnetosphere interactions at Jupiter as revealed with energetic charged particle measurements.
The following topics were presented at the weekly APL Colloquium in 2004:

2 April
Lessons Learned from the Iraq War, Major General RH Scales Jr., U.S. Army (ret.)

16 April
Climate Change at the Edge of the Atmosphere: Evidence of Long-Term Thinning, J Emmert, George Mason Univ.

23 April
China’s Great Leap Upward—How Realistic Are Its Space Ambitions? J Oberg, author

30 April
Galileo in the Applied Physics Laboratory, D Sobel, author

7 May
Where Is The Navy Likely to Go? N Friedman, Defense Analyst

14 May
Exploring the Cosmos by “Doing Something Different,” D Dunham, APL

24 May
The Shuttle Columbia Accident Investigation—A Member’s Perspective, J Wolfe, Commander, U.S. Navy

25 June
Capture of Saddam Hussein, J Hickey, Colonel, U.S. Army