

## PUBLICATIONS

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

**Abita JL, and Schneider W**

Transdermal optical communications, *Johns Hopkins APL Tech. Dig.* 25(3), 261–268 (2004).

**Armand M, Lepistö JVS, Merkle AC, Tallroth K, Liu X, Taylor RH, and Wenz J**

Computer-aided orthopedic surgery with near-real-time biomechanical feedback, *Johns Hopkins APL Tech. Dig.* 25(3), 242–252 (2004).

**Baldwin KC, Duncan DD, and West SK**

The Driver Monitor System: A means of assessing driver performance, *Johns Hopkins APL Tech. Dig.* 25(3), 269–277 (2004).

**Bokulic RS**

A decade of advancements in spacecraft communications technology at APL, *Johns Hopkins APL Tech. Dig.* 25(4), 286–294 (2004).

**Boone BG, Bruzzi JR, Kluga BE, Millard WP, Fielhauer KB, Duncan DD, Hahn DV, Drabenstadt CW, Maurer DE, and Bokulic RS**

Optical communications development for spacecraft applications, *Johns Hopkins APL Tech. Dig.* 25(4), 306–315 (2004).

**Burns SP, and Scherock JJ**

Lambert guidance routine designed to match position and velocity of ballistic target, *J. of Guidance, Control, and Dynamics* 27(6), 989–996 (2004).

**Charles HK Jr, Chen MH, Spisz TS, Beck TJ, Feldmesser HS, Magee TC, and Huang BP**

AMPDXA for precision bone loss measurements on Earth and in space, *Johns Hopkins APL Tech. Dig.* 25(3), 187–200 (2004).

**Coolahan JE, Feldman AB, and Murphy SP**

Simulation of integrated physiology based on an astronaut exercise protocol, *Johns Hopkins APL Tech. Dig.* 25(3), 201–213 (2004).

**D'Amico WP, and Lauss MH**

Wireless local area network flight demonstration for high Doppler conditions, *Johns Hopkins APL Tech. Dig.* 25(4), 335–342 (2004).

**Darrin MAG, Carkhuff BG, and Mehoke TS**

Future trends in miniaturization for wireless applications, *Johns Hopkins APL Tech. Dig.* 25(4), 343–347 (2004).

**Fitch MJ, and Osiander R**

Terahertz waves for communications and sensing, *Johns Hopkins APL Tech. Dig.* 25(4), 348–355 (2004).

**Hammons AR Jr, Burbank JL, Jones SD, Conklin RE, Merheb NM, Jordan MA, Kasch WT, Hampton JR, and Andrusenko J**

Communications for the warfighter: Research and development at APL, *Johns Hopkins APL Tech. Dig.* 25(4), 326–334 (2004).

**Hostetter ME, Noll MH, Molinaro EG, Fields WG, and Hanke PA**

A decade of large-scale software systems integration and prototype development for army wideband SATCOM, *Johns Hopkins APL Tech. Dig.* 25(4), 316–325 (2004).

**Kerechanin CW II, Cutchis PN, Vincent JA, Smith DG, and Wenstrand DS**

Development of field portable ventilator systems for domestic and military emergency medical response, *Johns Hopkins APL Tech. Dig.* 25(3), 214–222 (2004).

**Land HB III, and Eddins CL**

Optical pressure measurement, *IEEE Instrumentation & Measurement* 7(3), 38–45 (2004).

**Loesch JE, and Theodori JG**

Document management: A case study, in *IFMA World Workplace*, Salt Lake City, UT (Oct 2004).

**McCally RL, Bonney-Ray J, and Bargerion CB**

Corneal epithelial injury thresholds for exposures to 1.54  $\mu\text{m}$  radiation-dependence on beam diameter, *Health Phys.* 87(6), 615–624 (2004).

**Morris AT, Kohl R, Marshall J, Moore RC, and Long LN**

The year in review: software, computer systems, *Aerospace America* 42(12), 43–48 (2004).

**Murray GM, and Southard GE**

Metal ion selective molecularly imprinted materials, in *Molecular Imprinting: Science and Technology*, Chap. 7, M Yan and O Ramstrom (eds.), Marcel Dekker, New York, NY (2004).

**Palmer JG, and Spaeder JA**

Outpatient management of chronic diseases using the TeleWatch patient monitoring system, *Johns Hopkins APL Tech. Dig.* 25(3), 253–260 (2004).

**Pittman TB, Jacobs BC, and Franson JD**

Heralding single photons from pulsed parametric down-conversion, *Optics Communications* 246, 545–550 (2004).

**Sternberger WI, and Greenberg RS**

Neural blockade anesthesia monitor, *Johns Hopkins APL Tech. Dig.* 25(3), 231–241 (2004).

**Suter JJ**

Communications systems development at APL: Guest Editor's introduction, *Johns Hopkins APL Tech. Dig.* 25(4) 283–285 (2004).

**Voo L, Armand M, and Kleinberger M**

Stress fracture risk analysis of the human femur based on computational biomechanics, *Johns Hopkins APL Tech. Dig.* 25(3), 223–230 (2004).

**Wallis RE, Reece MA, Sequeira HB, Upshur JI, and White C**

Advances in ka-band power amplifier technology for space communications systems, *Johns Hopkins APL Tech. Dig.* 25(4) 295–305 (2004).

**Yanek SP**

Biomedical engineering at APL: Guest Editor's introduction, *Johns Hopkins APL Tech. Dig.* 25(3), 182–186 (2004).

## CONFERENCES WITH PROCEEDINGS

APL staff members were among those who gave the following presentations that appeared in conference proceedings:

**Broadwater JB, Meth R, and Chellappa R**

Dimensionality estimation in hyperspectral imagery using minimum description length, in *Proc. of the 24th Army Sci. Conf.*, Orlando, FL, p. 2 (Dec 2004).

**Clark TR, Airola MB, and Sova RM**

Demonstration of dual-polarization fiber ring laser for microwave generation, in 2004 IEEE Int. Topical Mtg. on Microwave Photonics (MC-25), Ogunquit, ME, p. 2 (Oct 2004).

**Cole RG**

Initial studies of worm propagation in MANETS for the Army's future combat systems, in *The Army Sci. Conf.* 2004, Orlando, FL www.asc2004.com (Dec 2004).

**Costello CJ, Diehl CP, Banerjee A, and Fisher H**

Scheduling an active camera to observe people, *2nd ACM Int. Workshop on Video Surveillance and Sensor Networks*, New York, pp. 39–45, <http://portal.acm.org/citation.cfm?id=1026799.1026808> (Oct 2004).

- Darrin MAG, Osiander R, Lehtonen J, Farrar D, Douglas D, and Swanson T**  
Novel micro electro mechanical systems (MEMS) packaging for the skin of a satellite, in *Aerospace Conf.*, 2004 Volume: 4 1063, Big Sky, MT, p. 2 (Mar 2004).
- Darrin MA, Osiander R, Lehtonen SJ, and Farrar D**  
Novel microElectro mechanical systems (MEMS) packaging for the skin of the satellite (This was presented by Eric J. Finnegan, but he was not an author or co-author.), 2004 *IEEE Aerospace Conf.*, Big Sky, MT (Mar 2004).
- Dwivedi A**  
OPNET assisted market forecast for communications equipment, in *OPNET Workshop 2004 Session1339*, Bethesda, MD (Sep 2004).
- Fitch MJ, Dodson C, Ziomek DS, and Osiander R**  
Time-domain terahertz spectroscopy of bio-agent simulants, in *Proc. of the SPIE* (Vol. 5584 5584-3), Philadelphia, PA, p. 2 (Oct 2004).
- Fitzpatrick WB**  
Copious text on small screen interfaces, *HFES 48th Annu. Conf.*, New Orleans, LA, pp. 750–753 (Sep 2004).
- Loescher K, Young G, Colle N, and Winstead B**  
Application of a SAR image archive to climatological analysis of coastal wind storms, *IEEE Int. GeoSci. and Remote Sensing Symp. VI*, Anchorage, AK, pp. 4127–4130 (Sep 2004).
- Lucarelli DG, and Wang I-J**  
Decentralized synchronization protocols with nearest neighbor communication, *The Second ACM Conf. on Embedded Networked Sensor Systems 62*, Baltimore, MD, pp. 62–68 (Oct 2004).
- Magruder SF**  
Progress in understanding and using over-the-counter pharmaceuticals for syndromic surveillance of public health, in *Syndromic Surveillance, Reports from a National Conf.*, 2003, Morbidity and Mortality Weekly Report, Vol. 53 Suppl., New York, NY, pp. S117–122 (Sep 2004).
- McNamee JP**  
Language identification: A solved problem suitable for undergraduate instruction, *Proc. 20th Annu. Consortium for Computing Scis. in Colleges East Conf.*, Baltimore, MD, pp. 94–101 (Oct 2004).
- McNamee JP, and Mayfield JC**  
Cross-language retrieval using HAIRCUT for CLEF 2004, Working notes for the *Cross-Language Evaluation Forum 2004 Workshop*, Bath, UK, pp. 31–37, <http://www.clef-campaign.org/> (Sep 2004).
- Mirani M, Dragonette RA, and Reinhart MJ**  
Improved operations at the APL time and frequency laboratory, in *The Proc. of the 36th Precise Time and Time Interval (PTTI) Systems and Applications Mtg.*, Washington, DC (Dec 2004).
- Monaldo FM, Thompson DR, Pichel WG, and Clemente-Colón P**  
Application and extension of a quasi-operational approach to wind speed measurement from spaceborne synthetic aperture radar (SAR), *IEEE Int. GeoSci. and Remote Sensing Symp. I*, Anchorage, AK, pp. 144–147 (Sep 2004).
- Moran M, Wesolek DM, Berhane B, and Rebello KJ**  
Microsystem cooler development, in *Int. Energy Conversion Engineering Conf.*, Providence, RI (Aug 2004).
- Najmi AH, and Magruder SF**  
Estimation of hospital emergency room data using OTC pharmaceutical sales and normalized LMS filters, *IEEE 7th Int. Conf. on Signal Processing Proc. III*, 2249–2252 (2004).
- Pichel WG, Li X, Friedman KS, Clemente-Colón P, Monaldo FM, Beal R, and Wackerman C**  
SAR-derived winds in coastal Alaska waters, *IEEE Int. GeoSci. and Remote Sensing Symp. I*, Anchorage, AK, pp. 148–151 (Sep 2004).
- Pikas CK**  
Blogs for personal knowledge management, in *Am. Soc. for Information Sci. & Technol. Annual Mtg.*, Providence, RI (Nov 2004).
- Raney RK, and Leuschen CJ**  
Simultaneous laser and radar altimeter measurements over land and sea ice, *IEEE Int. GeoSci. and Remote Sensing Symp. I*, Anchorage, AK, pp. 676–678 (Sep 2004).
- Rieser CJ, Rondeau TW, Bostian CW, and Gallagher TM**  
Cognitive radio testbed: Further details and testing of a distributed genetic algorithm based cognitive engine for programmable radios, in *IEEE MILCOM 2004*, Monterey, CA (Nov 2004).
- Saksena A, and Lucarelli DG**  
Probabilistic risk assessment for comparative evaluation of security features, in *Proc. of SPIE-IS&T Electronic Imaging*, (SPIE Vol. 5310), San Jose, CA, pp. 74–81 (Jan 2004).
- Sample JL, Rebello K, Saffarian H, and Osiander R**  
Carbon nanotube coatings for thermal control, in *Proc. of the Inter-Soc. Conf. on Thermal and Thermomechanical Phenomena in Electronic Systems*, Las Vegas, NV (Jun 2004).
- Sample JL, Rebello K, Saffarian H, and Osiander R**  
Carbon nanotube arrays as thermal contact materials, in *Proc. of the Int. Conf. on Composites and Composites Engineering*, Hilton Head, SC (Aug 2004).
- Simon DH, and Land HB**  
Micro pulsed plasma thruster technology development, in *40th AIAA Joint Propulsion Conf.*, 3622, Ft. Lauderdale, FL (Jul 2004).
- Sniegowski JJ, Rodgers SM, Boone BG, Bruzzi JR, Drabenstadt CW, Kluga BE, Rogala EW, Osiander R, Rebello KJ, and Darrin MAG**  
Development test and evaluation of MEMS micro-mirrors for free-space optical communications, in *Proc. of the SPIE: Optical Sci. and Technol.*, Denver, CO (Aug 2004).
- Thompson DR, Monaldo FM, Farrar JT, Weller RA, Elfouhaily TM, and Grimmett TM**  
Comparison of high-resolution wind maps from SAR imagery with *in situ* measurements from the ONR CBLAST experiments, *IEEE Int. GeoSci. and Remote Sensing Symp. I*, Anchorage, AK, pp. 40–43 (Sep 2004).
- Weaver GL, Reinhart MJ, and Mirani M**  
Developments in ultra-stable quartz oscillators for deep space reliability, in *The Proc. of the 36th Precise Time and Time Interval (PTTI) Systems and Applications Mtg.*, Washington, DC (Dec 2004).
- Winstead NS, Colle BA, and Bond N**  
Synthetic aperture radar (SAR) and high-resolution MM5 simulations of barrier jets in coastal Alaska, *IEEE Int. GeoSci. and Remote Sensing Symp. I*, Anchorage, AK, pp. 140–143 (Sep 2004).

The following papers appeared in conference proceedings available on CD-ROM:

**Burbank JL, and Kasch WT**  
COTS communications technologies for DoD applications: Challenges and limitations, in *Proc. of the 2004 IEEE Military Communications (MILCOM) Conf.* (Unclassified), Monterey, CA (Oct 2004).

**Burbank JL, and Kasch WT**  
Transforming legacy network systems for use in the Army future force, in *Proc. of the 2004 IEEE Military Communications (MILCOM) Conf.* (Unclassified), Monterey, CA (Oct 2004).

**Cancro GJ, and Driesman AS**  
Fault protection system development process for the STEREO spacecraft, in *2004 Int. Astronaut. Congress Proc.*, IAC-04-IAF-U.3b.08, Vancouver, Canada (Oct 2004).

**Coolahan JE, Feldman AB, and Murphy SP**  
Integrated physiological simulation of an astronaut exercise protocol, *55th Int. Astronaut. Congress*, IAF-G.1.03, Vancouver, Canada (Oct 2004).

**Diehl CP**  
Approximate leave-one-out error estimation for learning with smooth, strictly convex margin loss functions, in *Proc. of the 2004*

IEEE Workshop on Machine Learning for Signal Processing, Sao Luis, Brazil (Oct 2004).

#### Heaton HI

Principal components analysis of fluorescence cross-section spectra from biological organisms, in *Proc. of the 6th Joint Conf. on Stand-off Detection for Chemical and Biological Defense*, Williamsburg, VA (Oct 2004).

#### Newman AJ, DeSena JT, Samsundar J, and Porter DW

A hybrid-genetic algorithm for fusion-optimized dynamic sensor retasking, in *Proc. of the MSS Nat. Symp. on Sensor and Data Fusion (NSSDF) 2004*, JHU/APL, Laurel, MD (Jun 2004).

#### Oetting JD, and King KS

The impact of IPSEC on DoD teleport throughput efficiency, in *2004 IEEE Military Communications Conf. (U071-3)*, Monterey, CA (Nov 2004).

#### Rondeau TW, Le B, Bostian CW, and Rieser CJ

Cognitive radios with genetic algorithms: Intelligent control of software defined radios, in *2004 Software Defined Radio Tech. Conf.*, Phoenix, AZ (Nov 2004).

#### Smart JH, and Yaffe RN

Empirical optical relationships of nepheloid layers, in *Ocean Optics XVII*, Australia <http://www.oceanopticsconference.org/Abstract-Pages/AbstractsPZ.php> (Oct 2004).

## PRESENTATIONS

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

#### Brandt PC, DeMajistre R, Roelof EC, Mitchell DG, Ohtani S, Anderson BJ, Jahn J-M, Goldstein J, Vallat C, and Dandouras I

Global ENA images of the ring current, *8th Cluster Workshop*, Durham, NH (Sep 2004).

#### Brinckerhoff W, Cornish T, Ecelberger S, Jaskulek S, Boldt J, and Strohbehn K

Technical approaches to laser mass spectrometry at Mars, *Mars Astrobiology Sci. and Technol. Workshop*, Carnegie Institution of Washington, Washington, DC (Sep 2004).

#### Broadwater JB, Meth R, and Chellappa R

A hybrid algorithm for subpixel detection in hyperspectral imagery, *IGARSS 2005*, Anchorage, AK (Sep 2004).

#### Darrin MAG

Micro electro mechanical devices for spacecraft thermal control, *Pan Am. Adv. Sci. Institute*, San Carlos de Bariloche, Argentina (Jun 2004).

#### Darrin MAG

Promise of MEMS and nanotechnology for military and aerospace electronics, *CMSE Commercialization of Military and Space Electronics*, LA, AL (Feb 2004).

#### Dunham D

Exploring the cosmos by doing something different, *Am. Astronaut. Soc. Brouwer Award Lecture*, U.S. Naval Observatory, Washington, DC (Sep 2004).

#### Erlandson RE, Kumar CK, Tennyson PD, Michaelis CH, Spisz T, and Hargis CB

First alert & cueing (FAC) FY03 final report, *Report to Missile Defense Agency*, Washington, DC (Mar 2004).

#### Erlandson RE, and Kumar CK

FAC ELDT launch detection results from Red Dog 1a and 1b, *AS Conf.*, Lexington, MA (Jan 2004).

#### Fraeman ME, and Eisenreich P

FPGA design process checklist, *2004 Military and Aerospace Programmable Logic Device [MAPLD] Int. Conf.*, Washington, DC (Sep 2004).

#### Franson JD

Quantum computing using linear optics and the Zeno effect, *ERATO Conf. on Quantum Information Sci. 2004*, Tokyo, Japan (Sep 2004).

#### Georgoulis M, Rust DM, and LaBonte BJ

Magneto-kinematic evolution in the active region solar photosphere and helicity diagnostics in solar eruptions, *Living With a Star Workshop*, Boulder, CO (Mar 2004).

#### Johnson J, and Wing S

Information dynamical modeling of magnetospheric dynamics, *Joint Asia Oceania GeoSci.s Soc. (AOGS) 1st Annu. Mtg. & 2nd Asia Pacific Association of Hydrology and Water Resources (APHW) Conf.*, Singapore (Jul 2004).

#### Lloyd SA, Humm DC, Yee J-H, Morrison D, Murphy GA, Morgan MF, Silverglate P, Vervack RJ Jr, and Paxton LJ

STARS: The Stellar Absorption and Refraction Sensor, *Am. Institute of Aeronautics and Astronaut. (AIAA) Space Conf.*, San Diego, CA (Sep 2004).

#### Michaelis CH, and Taylor JC

Chemical agent droplet evaporation and breakup at high altitudes, *Missile Defense Agency Modeling and Simulation Directorate*, Washington, DC (May 2004).

#### Michaelis CH, and Taylor JC

Kill Assessment observations and analysis, *Air Force Space Command*, Peterson AFB, Colorado Springs, CO (Mar 2004).

#### Michaelis CH, and Taylor JC

Development of a continuum/rarefied hybrid scheme for flows with thermal and chemical non-equilibrium, *Am. Institute of Aeronautics and Astronautics (AIAA) ThermoPhys. Conf.*, Portland, OR (Jun 2004).

#### Raney RK, and Leuschen CJ

Abyss-Lite: A high-resolution gravimetric and bathymetric mission, *AIAA Space Conf.*, San Diego, CA (Sep 2004).

#### Saksena A, and Lucarelli DG

Probabilistic risk assessment for comparative evaluation of security features, *Optical Security and Counterfeit Deterrence Techniques V*, San Jose, CA (Jan 2004).

#### Stoneburner GR

Enterprise risk management (A walk through of NIST SP 800-30 Rev A Draft), *Zurich Information Security Center (ZISC) Workshop on IT Security Risk Management*, Zurich, Switzerland (Sep 2004).

#### Taylor JC

FM-6 observations and RISK modeling predictions, *The High Altitude Air Defense (THAAD) Int. Working Group Mtg.*, PMRF, HI (Mar 2004).

#### Telford JK

Predicting operational reliability with quantified confidence from limited system Data, *Chesapeake Chapter of America Statistical Association*, Aberdeen, MD (Jan 2005).

#### Thompson DR

Alternating polarization imagery on rough-surface scattering models and the generation of high-resolution wind maps, *ENVISAT Team Mtg.*, European Space Agency, Salzburg, Austria (Sep 2004).

#### Ukhorskiy AY, and Takahashi K

The impact of ULF waves on the outer radiation belt electrons, *GEM Summer Workshop*, Snowmass, CA (Jun 2004).

#### Ukhorskiy AY, Brandt PC, and Ohtani S

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).

#### Ukhorskiy AY, Sitnov MI, Sharma AS, Anderson BJ, and Ohtani S

Data-derived forecasting model for relativistic electron intensity at geosynchronous orbit, *Geospace Environment Modeling (GEM) Summer Workshop*, Snowmass, CO (Jun 2004).

The following papers were presented at the 35th Committee on Space Res. (COSPAR) Scientific Assembly, Paris, France (Jul 2004):

**Agueda N, Lario D, Roelof EC, and Sanahuja B**

Modeling the effects of the pitch-angle scattering processes on the transport of energetic particles along the interplanetary magnetic field.

**Decker R, Roelof EC, and Krimigis SM**

Variations of energetic ion spectra and anisotropies at Voyager 1 in the vicinity of the termination shock during 2002–04 at 85–92 AU.

**Haggerty DK, and Roelof EC**

A quantitative measure of strong pitch-angle anisotropies.

**Haggerty DK, and Roelof EC**

Effective drift velocity and initiation times of interplanetary type-III radio bursts.

**Haggerty DK, and Roelof EC**

Effectiveness of anti-coincidence in electron detectors: Implications for beam-like electron events.

**Haggerty DK, Roelof EC, and Gold RE**

Inter-calibration of ACE/EPAM from different detector heads: Implications for near-Earth spacecraft operations.

**Haggerty DK, Ho GC, Roelof EC, and Gold RE**

Qualitative comparison of ACE/EPAM from different detector heads: Implications for NOAA RTSW users.

**Ho GC, Lario D, Decker RB, and Roelof EC**

Energetic storm particle events observed on ACE and wind during solar cycle 23.

**Johnson RE, Leblanc F, Deyoung R, and Paranicas CP**

Jovian satellite surfaces.

**Korth H**

Crossing the termination shock with Voyager 1.

**Krimigis SM**

Current understanding of Mercury's magnetosphere before MESSENGER.

**Krimigis SM**

Properties of a new region beyond ~85 AU: Is it the heliosheath?

**Krimigis SM**

Signals from the termination shock: Recent Voyager observations.

**Krimigis SM, Mitchell DG, Hamilton DC, Livi S, Armstrong TP, Cheng AF, Douras J, Gloeckler G, Hsieh KC, Ip W-H, Keath EP, Kirsch E, Krupp N, Lagg A, Lanzerotti LJ, Mauk BH, McEntire RW, Roelof EC, Wilken B, and Williams DJ**

Energetic particles and neutrals observed during Cassini's approach and orbit insertion at Saturn.

**Krupp N, Lagg A, Woch J, Krimigis SM, Livi S, Mitchell DG, Hamilton DC, Armstrong TP, and Lanzerotti LJ**

Energetic particles in the vicinity of Saturn: Cassini MIMI/LEMMS observations.

**Mauk BH, Krimigis SM, Mitchell DG, Paranicas CP, and Roelof EC**

Imaging Saturn's dust rings using energetic neutral atoms: The Cassini observations.

**Mitchell DG, Krimigis SM, Mauk BH, Roelof EC, Paranicas CP, Brandt PC, Hamilton DC, Livi S, Armstrong TP, Cheng AF, Dandouras J, Gloeckler G, Hsieh KC, Ip W-H, Keath EP, Kirsch E, Krupp N, Lagg A, Lanzerotti LJ, McEntire RW, Wilken B, and Williams DJ**

Energetic neutral atom emission during Cassini's approach and orbit insertion at Saturn: Source strength and dynamics.

**Paranicas CP, Decker RB, and Williams DJ**

Differential irradiation of Ganymede.

**Roelof EC, and Lario D**

Intensities of energetic neutral atoms produced by high-energy tails of pickup protons in the solar wind.

**Roelof EC, and Lario D**

The Telemachus mission: Dynamics of the polar Sun and heliosphere.

**Roelof EC, and Lario D**

Transverse anisotropies of 40–90 MeV solar energetic protons: A re-interpretation.

**Roelof EC, Decker R, and Krimigis SM**

Voyager-1/ILECP energetic ion angular distributions at 85–88 AU are inconsistent with diffusion-convection theory.

**Roelof EC, Mitchell DG, Krimigis SM, Mauk BH, Paranicas CP, and DeMajistre R**

Cassini/MIMI/INCA/ENA images of ion precipitation into Saturn's exosphere.

**Saur J, Strobel DF, Mauk BH, Mitchell DG, Krimigis SM, and Roelof EC**

Plasma interactions at the icy satellites of Saturn.

**Volwerk M, Paranicas CP, Kivelson MG, and Khurana KK**

Europa's interaction with Jupiter's magnetosphere: The wake region.

## COLLOQUIA

The following topics were presented at the weekly APL Colloquium in 2005:

**20 Jan**

They Still Don't Get It: The Danger of Ignoring Reality in the War on Terrorism, M Scheuer, Former CIA

**28 Jan**

Terrorism on the High Seas, G Luft, Institute for the Analysis of Global Security

**7 Feb**

The Sling and the Stone: On War in the 21st Century, T Hammes, National Defense University

**11 Feb**

Naval Applications of Electro-Magnetic Guns, H Mark, University of Texas at Austin

**16 Feb**

The Naval Studies Board and Its Views on Naval Issues, V Vitto, Charles Stark Draper Laboratory

**18 Feb**

Black History: A Time for a New Chapter in Science and Technology, J Slaughter, National Action Council for Minorities in Engineering

**9 Mar**

America the Vulnerable: Can the Homeland be Secured? S Flynn, Council on Foreign Relations

**11 Mar**

Where God Lives, J Blair, National Geographic Society

**16 Mar**

What Do We Know About Future Warfare? C Gray, University of Reading, England

**18 Mar**

A Clash of Identities: Darfur's Crisis in the National Context, F Deng, JHU/SAIS