

## PUBLICATIONS

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

**Agrawal AK, Kopp BA, Luesse M, and O'Haver KW**

Active phased array antenna development for modern shipboard radar systems, *Johns Hopkins APL Tech. Dig.* 22(4), 600–613 (2001).

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Using a 6-DOF missile simulation for sensitivity analysis and determination of knowledge uncertainty, in *Proc. M&S Workshop*, Las Cruces, NM, CD-ROM, <http://155.148.25.235> (Dec 2001).

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## PRESENTATIONS

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

- Ali SW**  
Quality management and leadership for the next millennium, *Fourth ICSQCC 2001*, Lucknow, India (5–8 Dec 2001).
- Ambrose HH**  
Nonlinear robust control for a passive line-of-sight stabilization system, *2001 IEEE Conf. on Control Applications*, Mexico City, Mexico (5–7 Sep 2001).
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*In situ* TOF-MS on planetary and small body surfaces (Invited), *Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) Conf.*, Detroit, MI (7–12 Oct 2001).

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Using a 6-DOF missile simulation for sensitivity analysis and determination of knowledge uncertainty, *ITEA Modeling and Simulation Conf., Emerging Tools for Testing and Training*, Las Cruces, NM (3–6 Dec 2001).
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A sea-based ballistic missile intercept concept designed to increase discrimination time, *10th Ann. AIAA/BMDO Technology Conf.*, Williamsburg, VA (13–16 Jul 2001).
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The application of hypersonic air breathing propulsion to space access and high-speed flight vehicles in the United States, *32nd IFR/DGLR Symp.*, Garmisch, Germany (6–8 Jul 2001).
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Inflatable structures developments for future APL spacecraft, *Materials and Structures Poster Presentations, SLT Review Plenary Session*, Laurel, MD (7 Sep 2001).
- The following papers were presented at the *American Geophysical Union 2001 Fall Mtg.*, San Francisco, CA (10–14 Dec 2001):
- Ku HC, Sibeck DG, and Wing S**  
Three-dimensional MHD simulation of the magnetosheath plasma and magnetic field in the presence of cusp
- Lui AT**  
Simulation of plasma instabilities for current disruption in the magnetotail
- Newell PT, and Wing S**  
Precipitation maps to Magnetotail Imager: Monitoring magnetosphere from low-altitude particles and images
- Paranicas C, Decker RB, and Krimigis SM**  
Energetic ion composition in Saturn's magnetosphere
- Swaminathan PK, Taylor JC, Ross MN, Zittel PF, and Lloyd SA**  
Comparison of ACCENT 2000 shuttle plume data with simple model predictions
- Talaat ER, Yee J, and Zhu X**  
Theoretical and observational studies of mesospheric responses to short-term UV variability
- Wing S, Newell PT, and Ruohoniemi M**  
Double cusp
- Zaharia SG, Cheng C, Maezawa K, and Wing S**  
Large scale structure of magnetic field, plasma, and currents in the magnetosphere
- Zhu X, Yee J, and Talaat ER**  
Ozone and temperature responses to the short-term solar ultraviolet flux variability in a coupled model of photochemistry and dynamics

## COLLOQUIA

The following topics were recently presented at the weekly APL Colloquium (\*part of "The New Critical Challenge: The War on Terrorism" series):

- 11 January 2002**  
Computer Security, RR Schell, Aesec Corp.
- 18 January 2002**  
Nano-Tracking: Cell Mechanics Without Pulling or Prodding, S Kuo, JHU
- 25 January 2002**  
Putting "M" in the Model: Measurement and Capability Maturity Model Integration, D Zubrow, Carnegie Mellon Inst.
- 1 February 2002**  
Bioterrorism,\* B Roberts, Inst. of Defense Analysis
- 8 February 2002**  
Advanced UAV for Science Defense and Applications, J Langford, Aurora Flight Sciences Corp.

- 15 February 2002**  
From Geosat into the ABYSS: Ocean Radar Altimetry at APL, RK Raney, APL
- 22 February 2002**  
African Americans and Technology: A Harbinger of the Future, C Mackie, Tulane Univ.
- 1 March 2002**  
Submarine Design and Construction, M Firebaugh, General Dynamics, Electric Boat Div.
- 8 March 2002**  
Center for Educational Resources at Homewood, G Richter-Nelson, JHU-Eisenhower Library
- 15 March 2002**  
Counterterrorism,\* JF Jarboe, FBI Headquarters
- 22 March 2002**  
Law of the Sea Treaty, JN Moore, U. of Virginia
- 5 April 2002**  
Beauty and the Accelerating Universe, M Livio, Space Telescope Science Inst.
- 12 April 2002**  
Military Transformation and Defense Policy Choices, ME O'Hanlon, Brookings Inst.
- 19 April 2002**  
Global Civil Society: Dimensions of the Nonprofit Sector, L Salamon, JHU-Inst. for Policy Studies
- 26 April 2002**  
Possible U.S. Responses to Terrorism,\* RJ Woolsey, Shea & Gardner
- 3 May 2002**  
My Father Sees Muons in the Driveway, or How to Explain Physics to Everybody Else, D Kestenbaum, National Public Radio
- 10 May 2002**  
TIMED Spacecraft: Science and Technology, J-H Yee and D Kusnierkiewicz, APL Space Department
- 17 May 2002**  
Stem Cell Research, J Gearhart, JHU-SOM
- 17 June 2002**  
Technology and the Needs of the Intelligence Community,\* RL Haver, Office of the Secretary of Defense

## U.S. PATENTS (2001)

APL staff received the following U.S. patents during 2001:

### Murphy JC, Osiander R, and Spicer JWM

*Method for Nondestructive/Noncontact Microwave Detection of Electrical and Magnetic Property Discontinuities in Materials*, No. 6,183,126 (6 Feb): A method for nondestructive/noncontact evaluation of a material for electrical and magnetic property discontinuities

### Raney RK

*Radar Ice Sounder with Parallel Doppler Processing*, No. 6,188,348 (13 Feb): A radar ice sounder which employs parallel Doppler processing obtains more reliable and accurate radar ice sounding

### Abita JL, and Ossing DA

*Intravenous Anchor System (IVFAS)*, No. 6,228,064 (8 May): An intravenous feed anchor system (IVFAS) that allows for unconstrained movement of a patient and IV configuration

### Le BQ, Lew AL, Schwartz PD, Sadilek AC, Suter JJ, Jenkins JE, and Ling SX

*Rechargeable Shoe*, No. 6,255,799 (3 Jul): A method for generating energy while walking or running for storage in a rechargeable battery

### Wozniak JJ, Tiller DB, Wienhold PD, and Hildebrand RJ

*Compressed Gas Fuel Storage System*, No. 6,257,360 (10 Jul): A compressed gas vehicle fuel storage system comprised of a plurality of compressed gas pressure cells supported by shock-absorbing foam positioned within a shape-conforming container

### Anderson CW, Barger CB, Benson RC, Carlson MA, Fraser AB, Groopman JD, Ko HW, Kohler DR, Phillips TE, and Strickland PT

*Miniature Immuno-Optical Rapid Analyte Sensor Platform*, No. 6,261,848 (17 Jul): A hand-held, self-contained, automatic, low power and rapid sensor platform for detecting and quantifying a plurality of analytes

### Atalar E, Lesho JC, Charles HK Jr, Carkhuff BG, and Bottomley PA

*Miniature Magnetic Resonance Catheter Coils and Related Methods*, No. 6,263,229 (17 Jul): Methods of making magnetic resonance catheter coils which include employing a flexible electrically insulative base member and depositing an electrically conductive material on the base member in a predetermined pattern to create at least one pair of generally parallel electrically conductive coil elements which are electrically connected to each other

### Charles HK Jr, Mechtel DM, and Francomacaro AS

*Multi-Chip Module Testability Using Poled-Polymer Interlayer Dielectrics*, No. 6,271,671 (7 Aug): A method for improving multi-chip module (MCM) testability by using a new technique to detect on-substrate electric field strength

### Land HB III, Klimek JM, Gauthier LR Jr, and Eddins CL

*Thermal Ionization Detector*, No. 6,292,105 (18 Sep): An ionization chamber that detects changes in temperature of electrical insulation with a corresponding change in voltage

### Iannuzzelli RJ

*Adaptive Windowing of FFT Data for Increased Resolution and Sidelobe Rejection*, No. 6,298,363 (2 Oct): A method of adaptive windowing of Fast Fourier Transform (FFT) data to reduce spectral leakage and increase sidelobe rejection

### Abita JL, Mostwin JL, and Carkhuff BG

*Telemetric In Vivo Bladder Urine Monitor System*, No. 6,319,208 (20 Nov): A telemetric in vivo bladder urine monitor system that includes a small, buoyant recorder that floats in the bladder of a human or animal and telemetrically relays data to an external receiver

### Hildebrand RJ, and Wozniak JJ

*Compressed Gas Manifold*, No. 6,321,775 (27 Nov): A compressed gas storage cell interconnecting manifold including a thermally activated pressure relief device, a manual safety shut-off valve, and a port for connecting the compressed gas storage cells to a motor vehicle power source and to a refueling adapter

## FOREIGN PATENTS (2001)

APL staff received the following foreign patents during 2001:

### Sternberger WI, and Greenberg RS

*Passive Method to Quantify Objectively the Level and Density of a Neural Blockade*, No. 731669 (Australia) (19 Jul): Method for obtaining in a passive manner electromyogram, temperature and heart rate measurements, which correlate to the dermatomal