

PUBLICATIONS

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

Castle MW, Nichols RA, and Tanger TE

Analysis of candidate communications architectures for automated airborne reporting of weather conditions, in *SAE Technical Paper Series 2002-01-15*, Wichita, KS, pp. 1–8 (2002).

Chang Y, O'Neil JM, McGrath BE, Heyler GA, and Brenza PT

Cassini launch contingency effort, in *Proc. STAIS (Space Technology Applications Int. Forum) 2002 Conf.*, Albuquerque, NM, Paper #37 (3–7 Feb 2002).

Diehl CP, and Hampshire JB II

Real-time object classification and novelty detection for collaborative video surveillance, in *2002 Int. Joint Conf. on Neural Networks 1237*, CD-ROM, Honolulu, HI (May 2002).

Domingue DL, and Cheng AF

Near Earth Asteroid Rendezvous: The science of discovery, *Johns Hopkins APL Tech. Dig.* 23(1), 6–17 (2002).

Dunham DW, McAdams JV, and Farquhar RW

NEAR mission design, *Johns Hopkins APL Tech. Dig.* 23(1), 18–34 (2002).

Elfouhaily T, Thompson DR, and Linstrom LA

Delay-Doppler analysis of bistatically reflected signals from the ocean surface: Theory and application, *IEEE Trans. Geosci. Remote Sens.* 40(3), 560–573 (2002).

Farquhar RW

NEAR Shoemaker at Eros: Mission director's introduction, *Johns Hopkins APL Tech. Dig.* 23(1), 3–5 (2002).

Fitch MJ, and Franson JD

Dispersion cancellation and non-classical noise reduction for large-photon-number states, *Phys. Rev. A* 65, 053809 (2002).

Franson JD, and Donegan MM

Perturbation theory for quantum-mechanical observables, *Phys. Rev. A* 65, 052107 (2002).

Freund DE, Bjerkaas AW, Kohlberg I, and Carter RJ

A preliminary investigation on the coupling of unwanted electromagnetic signals into a personal computer, in *Proc. Int. Conf. on Electromagnetics in Advanced Applications ICEAA 01*, Italy, pp. 95–98 (Sep 2001).

Heyler GA, and Harch AP

Making NEAR work: Cooperative modeling and simulation with an advanced guidance and control system, *Johns Hopkins APL Tech. Dig.* 23(1), 46–57 (2002).

Holdridge ME

NEAR Shoemaker spacecraft mission operations, *Johns Hopkins APL Tech. Dig.* 23(1), 58–70 (2002).

Kasch WT, Burbank JL, and Andrusenko J

Physical layer performance of the IEEE 802.11b WLAN standard in outdoor applications: A case study in Yuma, AZ, in *12th Virginia Tech./MPRG Symp. on Wireless Personal Communications*, Blacksburg, VA, pp. 7–17 (Jun 2002).

Kolodner MA, and Murphy PK

Hyperspectral shadow invariant detection and ID of targets through a reflectance to radiance approach, in *MSS Specialty Group on Camouflage, Concealment, and Deception Conf.*, AC-5, CD-ROM, Charleston, SC (22–26 Apr 2002).

Kujawa WF, Kroschl WM, and Sullivan KA

MCM UUV systems study: Cost, size and mission tradeoffs, in *Unmanned Systems Sym. 2002*, CD-ROM, Lake Buena Vista, FL (2002).

Lennon AM, and Wajer SD

Fractography of Evolved Sea Sparrow radomes subjected to a severe thermal shock environment, in *9th Dept. of Defense Electromagnetic Windows Symp.*, Huntsville, AL (May 2002).

Lucarelli DG

Chow's theorem and universal holonomic quantum computation, *J. Phys.A: Mathematical and General* 35(24), 5107–5114 (2002).

Maier-Tyler L

APL awards, *Johns Hopkins APL Tech. Dig.* 23(1), 78 (2002).

Mittal U, and Phamdo N

Hybrid digital-analog (HDA) joint source-channel codes for broadcasting and robust communications, *IEEE Trans. Inform. Theory* 48(5), 1082–1102 (2002).

Moorjani K

John R. Apel: An appreciation, *Johns Hopkins APL Tech. Dig.* 23(1), 90 (2002).

Murphy SP, Coolahan JE, Lutz RR, Saunders R, Mukkamala R, and Feldman AB

Distributed biomedical simulations: The application of the HLA for cardiac and cardiovascular simulation integration, in *Proc. 2002 Summer Computer Simulation Conf.*, San Diego, CA (Aug 2002).

Ohtani S, Yamauchi R, Nosé M, Kawano H, Engebretson M, and Yumoto K

Quiet-time magnetotail dynamics and their implications for the sub-storm trigger, *J. Geophys. Res.* 107(A2) (2002).

Ottman GK

Optimized piezoelectric energy harvesting circuit using step-down converter in discontinuous conduction mode, in *33rd Ann. IEEE Power Electronics Specialists Conf. Proc.*, CD-ROM, Cairns, Australia (2002).

Pace DK

The value of a quality simulation conceptual model, *Modeling & Simulation* 1(1), 9–10 (2002).

Phamdo N, Brunson SJ, Preziotti GR, Kyle EM, and Phamdo N

A braking model for collision warning simulation, in *ITS America 2002 Conf. Proc.*, CD-ROM, Long Beach, CA (Apr 2002).

Phamdo N, and Mittal U

A joint source-channel speech coder using hybrid digital-analog (HDA) modulation, *IEEE Trans. Speech and Audio Processing* 10(4), (2002).

Pierkarski B, Dubey M, Zakar E, Polcawich R, DeVoe D, and Wickenden D

Sol-gel PZT for MEMS applications, *Integrated Ferroelectrics* 42, 25–37 (2002).

Pittman TB, Jacobs BC, and Franson JD

Demonstration of nondeterministic quantum logic operations using linear optical elements, *Phys. Rev. Lett.* 88, 25,7902 (2002).

Potocki KA, and Bedini PD

Solar probe: Current status, in *Solar Wind 10 Conf. SVI 9*, Pisa, Italy, available at <http://www.arcetri.astro.it/~solwind/> (Jul 2002).

Saksena A, Dubbel DC, and Spicer JM

Probabilistic model for comparing the effectiveness of counterfeit deterrent features in optical security and counterfeit deterrence techniques IV, *Proc. SPIE* 4677-03, San Jose, CA, pp. 56–64 (2002).

Santo AG

NEAR spacecraft flight system performance, *Johns Hopkins APL Tech. Dig.* 23(1), 71–77 (2002).

Smart JH

Optical climatologies for US Navy missions, in *Fifth Int. Symp. Technology and the Mine Problem*, CD-ROM, Monterey, CA (Apr 2002).

Spall JC

Estimation via Markov chain Monte Carlo, in *Proc. Am. Control Conf.*, Anchorage, AK, pp. 2559–2564 (2002).

Spall JC

Uncertainty bounds in parameter estimation with limited data, Chap. 27, in *Modeling Uncertainties*, M Dror, P L'Ecuyer, and F Szidarovsky (eds.), Kluwer, Boston (2002).

Stadter PA, Chacos AA, Heins RJ, Moore GT, Olsen EA, Asher MS, and Bristow JO

Confluence of navigation, communication, and control in distributed spacecraft systems, *IEEE Aerospace and Electronic Systems Magazine* 17(5), 26–32 (2002).

Talaat ER, Yee JH, and Zhu X

The 6.5-day wave in the tropical stratosphere and mesosphere, *J. Geophys. Res.* 107(D12) (2002).

West RL, Telford JK, and Burns SP

Using experimental design for determining critical technical performance measures for BMD risk reduction, in *Risk Management 2002: Key Actions for the 21st Century*, CD-ROM, McLean, VA (May 2002).

Williams DJ, and Gasparovic RF

John R. Apel: Obituary, *Johns Hopkins APL Tech. Dig.* 23(1), 88–89 (2002).

PRESENTATIONS

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

Awadallah RS, Kuttler JR, Gehman JZ, and Newkirk MH

On effects of lateral terrain variations on radar propagation in 3D environments, *PIERS 2002*, Cambridge, MA (1–5 Jul 2002).

Brinckerhoff WB, Mahaffy PR, Cornish TJ, Cheng AF, Gorevan SP, Niemann HB, Harpold D, Rafeek S, and Yucht D

Dual source time-of-flight mass spectrometer and sample handling system, *European Geophysical Society 26th General Assembly*, France (22–27 Apr 2002).

Castle MW, Nichols RA, and Tanger TE

Analysis of candidate communication architectures for automated airborne reporting of weather conditions, *SAE General Aviation Technology Conf. and Exhibition*, Wichita, KS (16–18 Apr 2002).

Castle MW, Sprouse CR, and Bachman LR

Simulation of flight information service: Broadcast performance of the ADS-B candidate links, *Integrated Communication, Navigation, and Surveillance Technologies Conf. and Workshop*, Vienna, VA (22–27 Apr 2002).

Coolahan JE, Fong E, Holland RL, Rediske JF, Thomas JW, and West RL

A simulation for analyzing passive and covert radar (PCR) architectures, *Multinational Conf. on Passive and Covert Radar 2002*, UK (18–20 Jun 2002).

Gehman JZ, Newkirk MH, and Kuttler JR

Advances in radar propagation and clutter modeling with parabolic equation method, *Progress in Electromagnetics Research Symp.* 2002, Boston, MA (1–5 Jul 2002).

Grossman KG, Bamberger RJ, and Wilkerson JT

Control of cooperative autonomous unmanned aerial vehicles, *1st AIAA Unmanned Aerospace Vehicles, Systems, Technologies and Operations Conf.*, Portsmouth, VA (20–22 May 2002).

Jacobs BC, Pittman TB, and Franson JD

Demonstration of nondeterministic quantum logic operations using linear optical elements, *2002 American Physical Society Division of Atomic and Molecular Physics (APS-DAMOP) Annual Conf.*, Williamsburg, VA (28–30 May 2002).

Krimigis SM

Energetic charged particles in the inner heliosphere: Results of the Ulysses HI-Scale, *27th General Assembly of the European Geophysical Society*, Nice, France (22–26 Apr 2002).

Krimigis SM, Mitchell DG, Hamilton DC, Livi SA, and Krupp N

Cassini/MIMI observations of Jovian particle emissions after Jupiter flyby, *27th General Assembly of the European Geophysical Society*, Nice, France (22–26 Apr 2002).

Kujawa WF, Kroshl WM, and Sullivan KA

MCM UUV systems study: Cost, size and mission tradeoffs, *Unmanned Systems 2002*, Lake Buena Vista, FL (9–11 Jul 2002).

Lawrence DS

Cortisol sensor for soldier stress and fatigue monitoring, *Mid-Atlantic Regional Mtg. (MARM) of the American Chemical Society (ACS)*, Fairfax, VA (28–30 May 2002).

Lennon AM, and Wajer SD

Fractography of Evolved Sea Sparrow radomes subjected to a severe thermal shock environment, *9th Dept. of Defense Electromagnetic Windows Symp.*, Huntsville, AL (14–16 May 2002).

Mazzafro JM

Operation Enduring Freedom intelligence lessons learned: An unofficial quick look, *JWAD Symp.*, Laurel, MD (5 Jul 2002).

McCally RL, and Bonney-Ray JA

Light scattering from healed penetrating corneal wounds, *Assoc. for Research in Vision and Ophthalmology*, Fort Lauderdale, FL (5–10 May 2002).

McCally RL, and Bargeron CB

Corneal epithelial damage thresholds for multiple-pulse exposures to 2.02 μm radiation from a Tm:YAG laser, *Int. Conf. on Laser Bioeffects on the Eye*, Paris, France (13–14 Jun 2002).

McCally RL, and Bonney-Ray JA

Corneal epithelial injury thresholds for exposures to 1.54 μm radiation—Dependence on beam diameter, *Int. Conf. on Laser Bioeffects on the Eye*, Paris, France (13–14 Jun 2002).

Moorjani K

Bridging the information wisdom gap: A view from the east, *The Center for the Humanities Program—UMBC*, Baltimore, MD (17 Apr 2002).

Murphy SP, Coolahan JE, Lutz RR, Saunders R, Mukkamala R, and Feldman AB

Distributed biomedical simulations: The application of the HLA for cardiac and cardiovascular simulation integration, *2002 Summer Computer Simulation Conf.*, San Diego, CA (14–18 Jul 2002).

Novak JH, Stark VL, and Heinbuch DV

Zombie scan, *Workshop on Statistical and Machine Learning Techniques in Computer Intrusion Detection*, Baltimore, MD (11–13 Jun 2002).

Ohtani S

Quiet-time magnetotail dynamics and their implications for the substorm trigger, *The 6th Int. Conf. on Substorms*, Seattle, WA (25–30 Mar 2002).

Ohtani S, and Raeder J

Tail current surge, *NSF/GEM Workshop*, Telluride, CO (24–28 Jun 2002).

Ottman GK

Optimized piezoelectric energy harvesting circuit using step-down converter in discontinuous conduction mode, *33rd Ann. IEEE Power Electronics Specialists Conf.*, Cairns, Australia (23–27 Jun 2005).

Pittman TB, Jacobs BC, and Franson JD

Demonstration of nondeterministic quantum logic operations using linear optical elements, *2002 Quantum Electronics and Laser Science (QELS) Conf.*, Long Beach, CA (20–24 May 2002).

Stadter PA, Chacos AA, Heins RJ, Barrett GR, Leitner JA, and Bristow JO

Realizing distributed space system operations through network capable communication technology, *Second NASA Space Internet Workshop*, Greenbelt, MD (21–22 Mar 2002).

Telford JK

Sensitivity analysis using experimental design in computer simulations, *Baltimore Chapter of the American Statistical Assoc.*, Catonsville, MD (19 Apr 2002).

Van Wie DM, Bobashev SV, and Golovachov YP

Deceleration of supersonic plasma flow by an applied magnetic field, *33rd Plasmadynamics and Laser Conf.*, Maui, HI (21–23 May 2002).

Weiskopf FB, Gion T, Elkiss D, Gilreath H, Bruzek J, Bamberger R, Grossman K, and Wilkerson J

Control of cooperative autonomous unmanned aerial vehicles, *AIAA's 1st Technical Conf. and Workshop on Unmanned Aerospace Vehicles, Systems, Technologies, and Operations*, Portsmouth, VA (20–23 May 2002).

Weiskopf F, Gion T, Elkiss D, Gilreath H, Bruzek J, Bamberger R, Grossman K, and Wilkerson J

Cooperative autonomous UAVs, *Unmanned Systems 2002*, Lake Buena Vista, FL (10–11 Jul 2002).

Winters HL, and Vaughan FC

Exploiting web-based systems to optimize the effectiveness of on-line information storage and retrieval, *NanoSpace 2002*, Galveston Island, TX (24–28 Jun 2002).

Worley PD, Guarneri JM, Weiss Ro, and Jones MA

Submarine UAV mission area assessment, *Submarine Technical Symp.*, Laurel, MD (14–16 May 2003).

The following papers were presented at the *37th JANNAFACS/APS/PSHA Joint Mtg.*, Destin, FL (8–12 Apr 2002):

Rice T, Debonis JR, Steffen CJ, and Trefny CJ

Design evolution and performance characterization of the GTX air-breathing launch vehicle inlet.

Rice T, Smith TD, Yungster S, and Blaha B

Integrated nozzle design for the GTX RBCC flowpath.

Wolf TD, D'Alessio SM, and Patterson M

Testing of ceramic matrix composites for use as a scramjet combustor liner in the dual combustor ramjet.

The following papers were presented at the *Instrumentation and Measurement Technical Conf.*, Anchorage, AK (21–23 May 2002):

Fowler KR

Interfacing to the real world.

Fowler KR

Noise and shielding.

Fowler KR

Real issues for real-time systems.

The following papers were presented at the *American Geophysical Union 2002 Spring Mtg.*, Washington, DC (28–31 May 2002):

Hamilton DC, Pulupa MP, Krimigis SM, and Mitchell DG

Jovian versus interstellar pickup ion source strengths from Cassini Jupiter flyby observations.

Hill ME, Hamilton DC, and Krimigis SM

Low-energy anomalous cosmic ray observation of negative latitudinal intensity gradients during an $A > 0$ period.

Mason GM, Wiedenbeck ME, Miller JA, Mazur JE, Christian ER, Cohen CM, Cummings AC, Dwyer JR, Gold RE, Krimigis SM, Leske RA, Mewaldt RA, Slocum PL, Stone EC, and Von Rosenvinge TT

Spectral properties of He and heavy ions in 3He-rich solar flares.

Ohtani S, and Raeder J

Tailward expansion of the current disruption region: New insights from a global MHD simulation and comparison with satellite observations.

Paranicas CP, Volwerk M, and Kivelson MG

Flow diversion at Europa.

Patterson JD, Armstrong TP, Lanzerotti LJ, and Krimigis SM

Relativistic electron and ion modulation measured on Ulysses: HI-Scale instrument background.

Zhu X, Lopez-Puertas M, Russell JM, Mlynczak MG, Yee JH, Talaat ER, and Martin-Torres J

High latitude winter ozone 9.6-micron band limb emissions as measured by TIMED/SABER.

The following papers were presented at the *Euroconference, Jupiter after Galileo and Cassini*, Lisbon, Portugal (17–21 Jun 2002):

Anagnostopoulos GC, Karanikola I, Athanasiou M, and Krimigis SM

Quasi-periodic (10–80 min) temporal and spatial variations of energetic particle observations in the Jovian magnetosphere.

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

Leakage of energetic particles in the duskside Jovian magnetosphere.

Stern A, Krimigis SM, Cheng A, and McNutt R

New horizons Pluto-Kuiper Belt mission.