

PUBLICATIONS

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

- Andersson SK, Thomas ME, and Hoffman CE
Multiphonon contribution to the reststrahlen band of BaF₂, *Infra-red Phys. Technol.* 39(1), 47–54 (1998).
- Bokulic RS, Flaherty MKE, Jensen JR, and McKnight TR
The NEAR spacecraft RF telecommunications system, *Johns Hopkins APL Tech. Dig.* 19(2), 213–219 (1998).
- Burek RK (APL, retired)
The NEAR solid-state data recorders, *Johns Hopkins APL Tech. Dig.* 19(2), 235–240 (1998).
- Cheng AF, Farquhar RW, and Santo AG
NEAR overview, *Johns Hopkins APL Tech. Dig.* 19(2), 95–106 (1998).
- Cole TD
NEAR laser rangefinder: A tool for the mapping and topologic study of asteroid 433 Eros, *Johns Hopkins APL Tech. Dig.* 19(2), 142–157 (1998).
- Coughlin TB
The NEAR mission: Guest Editor's introduction, *Johns Hopkins APL Tech. Dig.* 19(2), 93–94 (1998).
- Dettmer JR
Cooperative fabrication of the NEAR spacecraft, *Johns Hopkins APL Tech. Dig.* 19(2), 241–246 (1998).
- Dogra VK, Collins RJ, and Levin DA
Simulations of spacecraft rarefied environments using a proposed surface model, AIAA Paper No. 98-0834 (Jan 1998).
- Ercol CJ, and Krein SJ (Orbital Sciences Corp.)
Thermal design of NEAR, *Johns Hopkins APL Tech. Dig.* 19(2), 185–194 (1998).
- Geyer O (Tel-Aviv Univ.), Michaeli-Cohen A (Tel-Aviv Univ.), Silver DM (APL), Versano D (Tel-Aviv Univ.), Neudorfer M (Tel-Aviv Univ.), Dzhhanov R (Tel-Aviv Univ.), and Lasar M (Tel-Aviv Univ.)
Reproducibility of topographic measures of the glaucomatous optic nerve head, *Br. J. Ophthalmol.* 82, 14–17 (1998).
- Goldsten JO
The NEAR X-ray/gamma-ray spectrometer, *Johns Hopkins APL Tech. Dig.* 19(2), 126–135 (1998).
- Grebowsky JM, Eerlandson RE, Sojka JJ, Schunk RW, and Belitza D
Comparison of measured high latitude F-Region ion composition climatological variability with models, *Adv. Space Res., Special Issue of COST/IRI Workshop* (1998).
- Haley DR, Strikwerda TE, Fisher HL, and Heyler GA
Attainable pointing accuracy with star trackers, *Proc. AAS 21st Annual Guidance and Control Conf.* (1998).
- Hartka TJ, and Persons DF
The design and testing of the NEAR spacecraft structure and mechanisms, *Johns Hopkins APL Tech. Dig.* 19(2), 163–173 (1998).
- Hawkins SE III
The NEAR multispectral imager, *Johns Hopkins APL Tech. Dig.* 19(2), 107–114 (1998).
- Heeres KJ, Holland DB, and Cheng AF
The NEAR science data center, *Johns Hopkins APL Tech. Dig.* 19(2), 257–266 (1998).
- Hersman CB, Boldt JD, Eisenreich P, Oden SF, and Temkin DK
Data processing hardware for the NEAR instruments, *Johns Hopkins APL Tech. Dig.* 19(2), 158–162 (1998).
- Heyler GA
Guidance and control aspects of the fast Mathilde flyby, *Proc. AAS 21st Annual Guidance and Control Conf.* (1998).
- Jenkins AL, and Murray GM
Enhanced luminescence of lanthanides: The ultratrace determination of europium by luminescence, *J. Chem. Ed.* 575, 227–230 (1998).
- Jenkins JE, Dakermanji G, Butler MH, and Carlsson PU
Power subsystem design and early mission performance, *Johns Hopkins APL Tech. Dig.* 19(2), 195–204 (1998).
- Jenkins JE, Hayden JW, and Pickett DF
Near Earth Asteroid Rendezvous (NEAR) flight battery performance, *Proc. 13th Annual Battery Conf.*, pp. 259–263 (Feb 1998).
- Krupp N (Max-Planck-Inst. for Aeronomie), Lagg A (Max-Planck-Inst. for Aeronomie), Livi S (Max-Planck-Inst. for Aeronomie), Wilken B (Max-Planck-Inst. for Aeronomie), Woch J (Max-Planck-Inst. for Aeronomie), and Williams DJ
The energetic particles detector aboard the Galileo spacecraft, First results in the Jovian magnetosphere, in *The Three Galileos: The Man, The Spacecraft, The Telescope*, C. Barbieri et al. (eds.), Kluwer Academic Publ., pp. 319–330 (1997).
- Le BQ, Nhan E, Maurer RH, and Lew AL
Reliability of chip on-board technology for space systems, *Proc. Electronic Components for the Commercialization of Military and Space Systems International Workshop*, Huntington Beach, CA (1998).
- Lewis RV, Freeman MP, Rodger AS, Watanabe M, and Greenwald RA
The behavior of the electric field within the substorm current wedge, *J. Geophys. Res.* 102, 179–190 (Jan 1998).
- Lohr DA, Zanetti LJ, Anderson BJ, Potemra TA, and Acuna MH (NASA Goddard Space Flight Center)
The NEAR magnetic field instrument, *Johns Hopkins APL Tech. Dig.* 19(2), 136–141 (1998).
- McNutt RL, Lyon J, and Goodrich CC
Simulation of the heliosphere: Model, *J. Geophys. Res.* 102, 1905–1912 (Feb 1998).
- Mechtel DM (US Naval Academy), Charles HK Jr, and Francomacaro AS
Electro-optic probing: A laser-based solution for noninvasive high-speed testing of multichip modules, *Proc. Int. Microelectronics Symp.*, Reston, VA, pp. 125–130 (1997).
- Mosher LE, and Wiley S
Design, development, and flight of the NEAR propulsion system, *Johns Hopkins APL Tech. Dig.* 19(2), 174–184 (1998).
- Pace DK
Synopsis of fidelity ideas and issues, *Proc. Spring '98 Simulation Interoperability Workshop*, Vol. 1, pp. 420–429 (1998).
- Peacock K, Warren JW, and Darlington EH
The near-infrared spectrometer, *Johns Hopkins APL Tech. Dig.* 19(2), 115–125 (1998).

- Raney RK
Radar altimetry, *Encyclopedia of Electrical and Electronics Engineering*, John Wiley and Sons (1997).
- Radar fundamentals: Technical perspective, Chap. 2, in *Principles and Applications of Imaging Radar; Manual of Remote Sensing*, 3rd Ed., American Society of Photogrammetry and Remote Sensing (1998).
- The delay/Doppler radar altimeter, *IEEE Trans. Geosci. Remote Sensing* (1998).
- Sotirelis T, Newell PT, and Meng CI
Shape of the open-closed boundary of the polar cap as determined from observations of precipitating particles by up to four DMSP satellites, *J. Geophys. Res.* 102, 399-406 (Jan 1998).
- Stott DD, Artis DA, Heggstad BK, Kroutil JE, Krueger RO, Linstrom LA, Perschy JA, Schwartz PD, and Sweitzer GF
The NEAR command and data handling system, *Johns Hopkins APL Tech. Dig.* 19(2), 220-234 (1998).
- Strikwerda TE, Ray JC, and Haley DR
The NEAR guidance and control system, *Johns Hopkins APL Tech. Dig.* 19(2), 205-212 (1998).
- Therault ML
Challenges facing the Oracle 8 DBA, *Proc. 8th Annual Independent Oracle Developers Conf.*, New York, pp. 277-286 (1998).
- Thomas ME, Wayland PS, and Terry DH
Imaging pyrometry of oxides, *Proc. SPIE Thermosense II* 3361, 2-13 (1998).
- Whitworth GG, Somers AJ, and Stratton WC
Efficient spacecraft test and operations with the NEAR ground system, *Johns Hopkins APL Tech. Dig.* 19(2), 247-256 (1998).
- ## PRESENTATIONS
- APL staff members were among those who gave the following unclassified presentations:
- Baker KB
Response of ionospheric convection to the IMF: Ground-based observations and simulations in ISTP and GEM, *Yosemite '98 Toward Solar Max 2000*, Yosemite National Park, CA (10-13 Feb 1998).
- Bevan MG, and Suter JJ
Innovative plastic battery and electronic charge control circuits, *HBC98—1st Hawaii Battery Conf.* (5-7 Jan 1998).
- Charles HK Jr
Modern wirebonding technology, *1st Electronic Packaging Technology Conf.*, Singapore, Republic of China (8-10 Oct 1997).
- Greenwald RA
1100 SuperDARN contributions to understanding the electrodynamics of the high-latitude ionosphere, *National Radio Science Meeting*, Boulder, CO (5-9 Jan 1998).
- Haley DR, Strikwerda TE, Fisher HL, and Heyler GA
Attainable pointing accuracy with star trackers, *21st Annual AAS Guidance and Control Conf.*, Breckenridge, CO (4-8 Feb 1998).
- Heyler GA
Guidance and control aspects of the fast Mathilde flyby, *21st Annual AAS Guidance and Control Conf.*, Breckenridge, CO (4-8 Feb 1998).
- Jenkins AL (UMBC), Uy OM, and Murray GM (APL and UMBC)
Polymer based lanthanide luminescent sensors for nerve agents, *PIHCON '98*, New Orleans, LA (2 Mar 1998).
- Jenkins JE, Hayden JW, and Pickett DF
Near Earth Asteroid Rendezvous (NEAR) flight battery performance, *13th Annual Battery Conf.*, Long Beach, CA (15 Jan 1998).
- Le BQ, Nhan E, Maurer RH, and Lew AL
Reliability of chip on-board technology for space systems, *Electronic Components for the Commercialization of Military and Space Systems International Workshop*, Huntington Beach, CA (2-4 Feb 1998).
- McNutt RL, Feldman W, Gloeckler G, Habbal S, Korendyke C, Liewer P, Moebius E, Moore T, Moses S, Randolph J, Rosner R, Slavin J, Tsurutani B, and Title A
The status of the solar probe mission, *Yosemite '98 Toward Solar Max 2000*, Yosemite National Park, CA (10-13 Feb 1998).
- Mechtel DM (US Naval Academy), Charles HK Jr, and Francomacaro A
Electro-optic probing: A laser-based solution for noninvasive high-speed testing of multichip modules, *Proc. Int. Microelectronics Symp.*, Philadelphia, PA (14-16 Oct 1997).
- Mitchell DG, Funsten HO, Gruntman M, Hesse M, Mauk BH, Meier RR, McComas DJ, Roelof EC, and Scime EE
Multi-point magnetospheric reconnaissance imaging: Visualization of ion dynamics, evolution, origins and structure, *Yosemite '98 Toward Solar Max 2000*, Yosemite National Park, CA (10-13 Feb 1998).
- Monaldo FM, Thompson DR, and Porter DL
SAR imagery of the ocean surface during the passage of Hurricane Edouard over the CMO experimental site, *American Geophysical Union Ocean Sciences Meeting*, San Diego, CA (8-13 Feb 1998).
- Murphy JC, Dubbel DC, and Benson RC
Technology approaches to document security, *Optical Security and Counterfeit Deterrence II*, San Jose, CA (29-30 Jan 1998).
- Paxton LJ, Christensen AB, Strickland DJ, Weiss M, Evans JS, and Meng CI
Far ultraviolet remote sensing of space weather: GUVI and SSUSI, *Space Weather Workshop*, Boulder, CO (5-6 Feb 1998).
- Preston LM (UMBC), and Murray GM (APL and UMBC)
Determination of carcinogenic N-nitrosocompounds by micellar electrokinetic capillary chromatography with laser induced fluorometric detection, *Pittsburgh Conf.—Pittcom '98*, New Orleans, LA (1-5 Mar 1998).
- Romenesko BM
Area array packaging—Its promise and limitations, *Int. Microelectronics and Packaging Society*, Bethlehem, PA (19 Feb 1998).
- Ruohoniemi JM, Greenwald RA, Barnes RJ, and Baker KB
Space weather products from SuperDARN HF radar observations, *Space Weather Workshop*, Boulder, CO (5-6 Feb 1998).
- Sadowsky J
Adaptive design of wavelets for continuous and discrete wavelet transforms to determine features in signals, *32nd Annual Conf. on Information Sciences and Systems*, Princeton, NJ (18-20 Mar 1998).
- Scheeres D, Dunham DW, Farquhar RW, McAdams JV, Helfrich C, Owen W, Synott S, Williams B, Wolff P, and Yeomans D
Mission design and navigation of NEAR's encounter with asteroid 253 Mathilde, *AAS/AIAA SpaceFlight Mechanics Meeting*, Monterey, CA (9-11 Feb 1998).
- Schulze RC, and Goldhirsh J
Antenna positioning criteria for propagation over land terrain at C-band, *International Union of Radio Science Conf.*, Boulder, CO (5-8 Jan 1998).

Thompson DR, and Porter DL
RADARSAT imagery of internal waves during the coastal mixing and optics experiment, *American Geophysical Union Ocean Sciences Meeting*, San Diego, CA (8-13 Feb 1998).

Theriault ML
Challenges facing the Oracle 8 DBA, *ECO '98*, New York, NY (2 Mar 1998).

Oracle-supplied tuning tools for Oracle 8, *Delaware Valley Oracle User Group Meeting*, Philadelphia, PA (6 Mar 1998).

Oracle-supplied tuning tools for Oracle 8, *ECO '98*, New York, NY (2 Mar 1998).

What's new on the backup scene for Oracle 8, *ECO '98*, New York, NY (3 Mar 1998).

COLLOQUIA

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

20 Feb
Where Do Meteorites Come From? RP Binzel, MIT

27 Feb
Telemedicine, E Ofili, Morehouse School of Medicine

6 Mar
Optoelectronic VLSI Microsystems, AG Andreou, JHU Dept. of Electrical and Computer Engineering

13 Mar
Molecular Mechanisms of Neural Development, A Ghosh, JHU School of Medicine

20 Mar
Designer Resins for Environmental Remediation, R Fish, Univ. California, Berkeley

27 Mar
Interferometry with Neutral Atoms, T Sleator, New York Univ.

3 Apr
Entropic Forces and Instabilities in Colloids, AG Yodh, Univ. Pennsylvania

17 Apr
Optimization in Language, P Smolensky, JHU Cognitive Sciences Dept.

24 Apr
Digital Cellular and Personal Radio Systems, B Keiser, Keiser Engineering, Inc.

1 May
Magnetically Directed Chondrogenesis, AA Halpern, Michigan State Univ. School of Medicine

8 May
Auralization of Complex Environments, JE West, Bell Laboratories

15 May
JAVA Revolution, MR Hall, APL