PUBLICATIONS

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

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

Chen YQ, and Moore KL

Mazzafro JM
Book Review: Intelligence in War Knowledge of the Enemy from Napoleon to Al Qaeda, Intelligence and National Security 20(1) (2005).

Murray GM, and Lawrence DS

Feldmesser HS, and Adams GS
The effects of thick copper on laminography data, in Technologies Global 5DX Users' Conf., Anchorage, Ak, p. 4 (Sep 2004).

Hammons AR Jr

Roth MW, Scheck AE, Chiu WW, and Murphy KE

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

Priebe CE, Fishkind DE, Abrams L, and Piatko CD

PRESENTATIONS

The following papers were presented at the 55th Int. Astronaut. Congress, Vancouver, Canada (Oct 2004):

Bowman AF, Chacos AA, DeBoy CC, Furrow RM, and Whittenbu KE
New Horizons mission to Pluto/Charon: Reducing costs of a long-duration mission.

Brandt PC, and DeMajistre R
Fault protection system development process for STEREO.

Guo Y, and Farquhar RW
Baseline design of New Horizons mission to Pluto and the Kuiper Belt.

Sotirelis T
The use of the Aerojet MR-103H thruster on the New Horizons mission to Pluto.

The following papers were presented at the 36th Annual Div. of Planetary Sciences Mtg., Am. Astronomical Soc., Louisville, KY (Nov 2004):

Spectroscopy of C/2000 WM1 (LINEAR) in the 3 μm region using NIRSPEC.

Bonev BP, Mumma MJ, Dello-Russo N, DiSanti MA, Gibb EL, Magee-Sauer K, Weaver HA, and Chin G
OH vibrational prompt emission and water hot-band fluorescent emission in C/2000 WM1 (LINEAR).

Chang S, and Gallagher DL
A transition size in physical properties!

Fernandez YR, Lisse CM, Schleicher DG, Bus SJ, Kassis M, Hora JL, and Deutsch LK
The nucleus of comet 2P/Encke as observed in the Fall 2003 apparition.

Huestis DL, Vervack RJ Jr, and Paxton LJ
The pioneer Venus Orbiter Ultraviolet Spectrometer data set.

Lederer SM, Thomas-Osip JE, Domingue DL, Gill LS, Osip DJ, Vilas F, and Jarvis KS
The Las Campanas/Lowell Observatory 2004 Itokawa campaign: Broadband photometry and Hapke modeling results.

Physical properties of the Deep Impact target comet 9P/Tempel 1 from Spitzer and Hubble Space Telescope observations.

Meech KJ, A’Hearn MF, Pittichova J, Lisse CM, Weaver HA, Biver N, and Woodney L
The Deep Impact Earth-based observing campaign.

Saur J, Brandt PC, Roelof EC, Mitchell DG, Mauk BH, and Krimigis SM
Neutral gas distribution in the E-ring region of Saturn’s magnetosphere inferred from energetic neutral atom imaging.

Infrared spectroscopy of C/1999 T1 (McNaught-Hartley).

Zhu X
Maintenance of equatorial superrotation in a planetary atmosphere: Analytic evaluation of the zonal momentum budget for the stratospheres of Venus, Titan and Earth.

The following papers were presented at the Am. Geophys. Union Fall Mtg., San Francisco, CA (Dec 2004):

Global proton pressure distributions in the inner magnetosphere derived by IMAGE/HENA using realistic magnetic fields and their relation to Birkeland currents measured by Iridium.

Barnes RJ, and Greenwald RA
SuperDARN: An established international, ground based data system.

Two components of ionospheric plasma structuring at mid-latitudes during large magnetic storms.

Bernasconi PN, and Rust DM
Advanced automated solar filament detection and characterization code: Description, performance, and results.

Bolton SJ, Santos-Costa D, Knupp N, Dougherty M, Roelof EC, Mitchell DG, Thorne RM, and Blanc M
Energetic proton and electron distributions in Saturn magnetosphere as revealed by Cassini / Voyager observations and proposed by models.
Boudouridis A, Lyons LR, Zesta E, Ruohoniemi JM, and Anderson PC
Super Dual Auroral Radar Network (SuperDARN) observations of ionospheric convection enhancements driven by solar wind dynamic pressure fronts.

Saturn’s energetic ion distribution observed by CASSINI/INCA and LEMMS.

Cancer GJ, and Driesman AS
Aurora boundaries quantified by geomagnetic index.

Chang S, Gallagher DL, Spann JF, Mende SB, Greenwald RA, and Newell PT
Energetic signatures of LLBL for northward IMF.

Christensen AB, and Paxton LJ
GUVI observations of the ionosphere and thermosphere.

Craven JD, Christensen AB, Meier RR, Paxton LJ, and Strickland DJ
Thermospheric composition changes in the morning sector near local midnight in association with substorm activity and IMF orientation.

Saturn’s A-ring ionosphere as observed by the Cassini Ion and Neutral Mass Spectrometer.

Effect of the October-November 2003 super-storms on thermospheric density and composition.

Demonstrating interoperability and heterogeneous resource access: The Scientific Resource Access System (SRAS) and the Space Physics Data Markup Language (SPDML).

Dandouras I, Mitchell DG, Roelof EC, Krimigis SM, Brandt PC, Hamilton DC, and Krupp N
Energetic neutral atom emissions associated with Titan: Observations during Cassini’s first orbits of Saturn.

Decker RB, Krimigis SM, and Roelof EC
Low-energy ions and electrons observed near the termination shock by Voyager 1 in 2004 (93 AU).

Demajistre R, Kil H, and Paxton LJ
A climatology of the nighttime ionosphere acquired by the TIMED/ GUVI instrument and the changes associated with storm time.

Denton RE, Takahashi K, Menietti JD, and Anderson RR
Field line dependence of the mass density and electron density.

Multi-spacecraft observations of energetic heavy ions accelerated by interplanetary shocks near Earth.

Donegan M, Vandegriff J, Ho GC, and Julia SJ
Operational warning of interplanetary shock arrivals using energetic particle data from ACE: Real-time upstream monitoring system.

Eichert J, Demajistre R, Paxton LJ, Kil H, and Talaat E
Storm-time modifications of the mid-latitude nighttime ionosphere measured by the TIMED/GUVI instrument.

Elphic RC, Lawrence DJ, Feldman WC, Maurice S, Bussey B, Lucey PG, and Spudis PD
Lunar Prospector Neutron Spectrometer response to shadow-constrained distributions of water at the lunar poles.

On the generation of enhanced sunward convection and transpolar aurora in the high-latitude ionosphere by magnetic merging.

Exploring the evidence of particle-wave coupling in the distant upstream ion-foreshock.

Observations and modeling of global O+ substorm injections.

Fox NJ, Mauk BH, and Blake JB
The role of non-adiabatic processes in the creation of the outer radiation belts.

Packaging a successful NASA mission to reach a large audience within a small budget. Earth’s dynamic space: Solar-terrestrial physics and NASA’s polar mission.

Georgoulis MK, LaBonte BJ, Rust DM, Bernasconi PN, and Foukal PV
Finding the sources of irradiance variation at sunspot minimum.

Georgoulis MK, and LaBonte BJ
Forecasting and real-time diagnostics of solar coronal mass ejections.

Ghosh S, Yee J, Demajistre R, Gibson ST, Lewis B, Dalgaro A, Naduvalath B, and Yoshino K
Remote sensing of molecular oxygen densities and temperatures in the thermosphere using stellar occultation techniques.

The global magnetometer network initiative: SuperMAG.

Gold RE, Solomon SC, McNutt RL, and Leary JC
The MESSENGER payload.

Goldstein J, Sandel BR, Brandt PC, and Burch JL
Remote-sensing and in situ study of inner magnetospheric coupling during storms and substorms.

Greenwald RA, Ruohoniemi JM, and Baker J
Wallops HF radar observations of penetrating electric fields and plasma structuring in the mid-latitude ionosphere.

Hackert CL, Crowley G, Yee J, Talaat E, and Roble RG
Solar cycle and seasonal variations in the energy balance of the middle and upper atmosphere.

Higuchi T, Ohtani S-I, Ueno G, and Kawan H
Seasonal variations of the intensities of large-scale field-aligned currents.

Ho GC, Lario D, Desai MI, Hu Q, and Kasper J
Energetic particle acceleration at near-Earth by interplanetary shocks.

Hoffman RA, Gjerloev JW, Friet M, Sigwarth JB, and Frank LA
Two component M-I coupling during auroral substorms.

Holland D, Weiss MB, Morrison D, Paxton LJ, and Eichert J
The need for an integrated ionosphere-thermosphere data system: Lessons learned from the GUVI DP FOC.

Hori T, Ohtani S-I, Mauk BH, McEntire RW, Maezawa K, Mukai T, Kasaba Y, and Hayakawa H
Convection electric field in the near-Earth tail during the super magnetic storm on November 20-21, 2003.

Hsieh S-Y, Lui ATY, and Carr SS
Linking a solar wind model with an empirical prediction model of MeV electron intensity at the geostationary latitude.
John J, Perez JD, Brandt PC, Mitchell DG, Henderson MG, and Pollock CJ

Ringing current composition during sawtooth storms.

Johnson JR, and Wing S

A solar cycle dependence of nonlinearity in magnetospheric activity.

Jones GH, Morrill JS, Lawrence GR, Lisse CM, Farnham TL, and Hammer D

Comet C/2002 V1 (NEAT): Behavior of a cometary dust tail at 0.1 AU from the Sun.

Kamalabadi F, Comberiate J, Krekeler J, and Paxton LJ

Hammer D

Keika K, Nosé M, Brandt PC, Ohtani S, Takahashi K, and Mitchell DG

Contribution of charge exchange at high altitudes to ring current decay: IMAGE/HENA observation.

Kil H, Paxton L, Zhang Y, Wollen B, and Morrison D

The nighttime F-region climatology during magnetically quiet periods from TIMED/GUVI and DMSP.

Kim K, Takahashi K, Lee D, Sutcliffe P, and Yamoto K

P12 pulsations associated with poleward boundary intensifications during the absence of substorms.

Korth H, Anderson BJ, Lyon JG, and Wiltberger MJ

Comparison of ionium observations of Birkeland currents associated with two magnetic cloud events with MHD simulations.


Coupling processes in the inner magnetosphere associated with mid-latitude red auroras during substorms.


First three years of TIMED: New results in Sun-Earth connections.


Imaging of Saturn’s magnetosphere and energetic particles observed during Cassini’s orbit insertion at Saturn.


Structure of Saturn’s magnetosphere as revealed by energetic particles.

LaBonte BJ, and Rust D

Heliospheric energetic particle variability over the solar cycle.

LaBonte BJ, Rust D, Bernasconi P, and Georgoulis M

An integrated program to forecast geostorms.

Liou K, and Carberry JF

Comparison of the ultraviolet aurora at high and low spatial resolution.

Liou K, Yamoto K, Mukai T, and Nagai T

Multipoint observations of P12 pulsations during storm recovery.


Energetic particle injections in Saturn’s magnetosphere.

Lui ATY, Hori T, Ueno G, and Mukai T

Plasma transport from multi-component approach.

Lui ATY, Hori T, Ueno G, and Mukai T

Transport characteristics from multi-component approach in magnetotail plasma measurements.

McNutt RL, Solomon SC, Gold RE, and Domingue DL

MESSENGER: The Discovery Mission to Mercury.

Meier RR, Crowley G, Strickl DJ, Christensen A, Paxton LJ, and Morrison D

Looking at the November 20, 2003 super storm with TIMED/GUVI: Comparison with the TIMEGCM.

Miñólo A, Orsini S, Mura A, Liemohn MW, and Brandt PC

Storm-time global evolution of the inner magnetospheric proton distributions: An empirical approach applied to the April 21–24th, 2001 storm.


Energetic neutral atom emission during Cassini’s first orbits at Saturn: Source strength and dynamics.


NOZOMI/ACE multispacecraft observations of solar energetic particles.


Substorms during prolonged northward interplanetary magnetic field.

Morgan MF, Yee J-H, Talaat E, Mlynczak MG, Martin-Torres FJ, Skinner WR, and Russell JM

Morphological studies of mesospheric chemical heating rates using HRDI/URS and SABER/TIMED measurements.

Morrison D, and Nylund S

Virtual metadata for multi-satellite data discovery.

Morrison D, Nylund S, Yee J-H, Talaat E, McGuire R, Bilitza D, and Jackman C

A virtual observatory for the ionosphere, thermosphere, and mesosphere community.


Global spectral and compositional diversity of Mars: A test of CRISM global mapping with Mars Express OMEGA.

Naroc T, and Gjerloew JY

Auroral electrodynamics during pseudo-breakups.

Newell PT, Wing S, Sotirelis T, and Meng C-I

The ion aurora and its seasonal variations.

Ohtani S, Ukhrorskiy AY, Brandt PC, and Mitchell DG

Estimation of the storm-related variation of the ring current intensity from the Sym-H index.

Oeretso M, Phan T, Raeder J, Fujimoto M, Wing S, McFadden JP, Renner H, and Balegh A

Observations of cold dense plasma sheet and cusp reconnection during extended periods of northward IMF.

Oksavik K, Oieroset M, Phan T, Raeder J, Fujimoto M, Wing S, Sotirelis T, and Meng C-I

HRDI/URS and SABER/TIMED measurements.


Global distribution of the equatorial plasma bubbles in the premidnight sector during solar maximum as observed by KOMPSAT-1.
Far ultraviolet remote sensing: Challenges and opportunities.

Paxton LJ, and Morrison D

Far ultraviolet remote sensing of space weather parameters: Current and future systems.

Procket L, and Schenk P

Origin and evolution of Castalia Macula, an anomalous young depression on Europa.

Roelof EC

Collaborative analysis of planetary waves in the mesospheric neutral winds with SuperDARN and TIMED observations.

Roelof EC, Brandt PC, Mitchell DG, Krimigis SM, Mauk BH, Paranicas C, Saur J, and Demajistre R

Low altitude ENA emission from energetic ions trapped in Saturn's exosphere.

Rust DM, Bernasconi PN, Foukal PV, and LaBonte BJ

Finding the sources of irradiance variation at sunspot minimum.

Saur J, Pouquet A, and Mathaeus WH

Spatially and chemically segregated energization of Jupiter's magnetosphere.

Sharma A, Ukhorskiy AY, and Chen J

Space weather forecasting: Integrated model based on nonlinear dynamics and statistical.

Shue J, Kamide Y, and Newell PT

Positive/negative effects of solar wind density on auroral electrojets.

Sotirelis T, Newell PT, and Meng C-I

Real-time Kp and b1 nowcast from GOES magnetometer estimates of magnetotail stretching.

Takahashi K, Denton RE, Anderson RR, and Hughes WJ

Mass density inferred from toroidal wave frequencies and its comparison to electron density.

Talaat ER, Yee J, Paxton L, Zhang Y, Zhu X, Meier R, Christensen A, Mlynczak M, and Russell JM

Observations of tides and planetary waves from the stratosphere to the thermosphere.

Ukhorskiy AY, and Takahashi K

The impact of ULF waves on radiation belt electrons.

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

Complexity in magnetospheric dynamics: From modeling to forecasting.

Veracoe BJ Jr

An updated view of Saturn's upper atmosphere from a reanalysis of the Voyager 1 and 2 UVS occultations.


Watermann J, Luehr H, Newell PT, Stauning P, Christiansen F, and Schlegel K

Mapping the low-altitude cusp: Intense small-scale field-aligned currents vs. energetic particle precipitation.

Weaver HA, A'Hearn MF, Arpigny C, Combi MR, Feldman PD, Festou MC, and Tozzi G-P

Detection of deuterium emission from C/2001 Q4 (NEAT).

Weygand JM, McPherron RL, Liou K, and Frey H

Solar wind and IMF control of substorm onset.

Wing S, Fujimoto M, Nishino MN, Newell PT, and Meng C-I

Evolution of the plasma sheet cold-dense ions during periods of northward IMF.


Kp forecast models.

Wolven B, Paxton L, Morrison D, and Woods T

TIMED GUVI and SEE observations of solar irradiance variations and the terrestrial airglow response.

Wu C, Liou K, Meng C-I, and Newell PT

Neutral composition effects on negative ionospheric storms at middle and low latitudes: Polar ultraviolet imager observations.

Yamaguchi R, Ohtani S, and Mukai T

Geosynchronous response to fast plasma flows in the plasmasheet: Geotail-GOES coordinated observations.


Effects of field inhomogeneity on high-altitude ozone measurements from spaceborne remote sensing.

Yelle RV, Waite JH, Cravens TE, Ip W, Kasprzak W, Luhmann J, McNutt RL, Ledvina S, and De La Haye V

INMS observations of Titan's upper atmosphere on 26 October 2004.

Young SL, Denton RE, Anderson BJ, and Hudson MK

Magnetic field line curvature induced pitch angle diffusion in the radiation belts.


GUVI/TIMED observations of the auroral inputs and thermospheric response during the October and November 2003 superstorms.

Zhu D, Balikhin MA, Billings SA, and Wing S

Continuous time model for the Dst index.

Zhu X

Maintenance of equatorial superrotation in Titan's atmosphere.

COLLOQUIA

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

1 Apr

U.S.-India Strategic Relations, A Tellis, Carnegie Endowment for International Peace

8 Apr

Defending the Earth from Asteroid Impacts, RE Gold, APL

15 Apr

Beyond the Widget: Columbia Accident Lessons Affirmed, Brig. Gen. DW Deal, USAF

29 Apr


6 May

Permissive Action Links and the History of Public Key Cryptography, S Bellouin, Columbia University

13 May

Surprise! U.S. and Western Intelligence and Warning Failures During the Cold War, N Polmar, Analyst, Consultant, and Author

26 May

Democracy and Counterterrorism: Lessons from the Past, L Richardson, Radcliffe Institute for Advanced Study