

LARRY W. ESPOSITO

BORN: 15 April 1951

EDUCATION

Massachusetts Institute of Technology, S.B. in Mathematics, 1973
University of Massachusetts at Amherst, Ph.D. in Astronomy, 1977

EMPLOYMENT

University of Colorado, Boulder,
Laboratory for Atmospheric and Space Physics
Research Associate 1977–present;
Department of Astrophysical and Planetary Sciences
Lecturer 1979–1984, Associate Professor 1984–1995, Professor 1995–present

RESEARCH ACTIVITIES

Co-Investigator

Pioneer Venus UVS, 1978–1993
Pioneer Saturn IPP, 1979–1981
Voyager PPS, 1980–1991
Galileo UVS 1984–2002
NASA VIMS Spectrometer Development Team, 1984–1988
Mars Observer VIMS, 1986–1988
USSR PHOBOS KRFM, 1986–1992
USSR MARS 94 Omega-VIMS, 1989–1990
USSR MARS 96 METEOPACKAGE, SVET, and TOROMETER, 1991–1996
Pluto Fast Flyby UVS Technical Development, 1993–1995
Pluto UVS PIDDP, 1993–1996
ESA Venus Express Venus Monitoring Camera, 2003–2016

Principal Investigator

Cassini UV Imaging Spectrometer, 1990–present
Venus Discovery Mission Study, 1993–1998
Hubble Space Telescope High Resolution Spectroscopy of Venus, 1993–1997
Pluto and Outer Solar System Explorer (POSSE) Phase A Concept Study, 2001
Surface and Atmosphere Geochemical Explorer (SAGE) Phase A Concept Study, 2010–2011
Venus Atmosphere and Surface Explorer (VASE) Study, 2013–2014
Venus In-Situ Atmospheric and Geophysical Explorer (VISAGE) Study, 2015–2018
Hyperspectral Observer for Venus Reconnaissance (HOVER) Study, 2018–2020

SERVICE ACTIVITIES

NASA

Chair, Voyager Rings Science Working Group, 1984–1989
Chair, US Evaluation Panel for Cassini Titan Probe, 1990
Cassini Project Redesign Study Team, 1992
Chair, Cassini Ground System Working Group, 1993–1996
Chair, Cassini Remote Science Working Group, 1995–1996
Office of Space Science Peer Review Process Team, 1995
Hubble second decade advisory committee, 1998–1999
Cassini TAMWG Working Group, 2003–2017, EPWG Working Group, 2006–2017
VEXAG Steering Group, 2005–2012

Chair, CDAP Rings Review Panel, 2006, 2007, 2008
 Chair, CDAP Atmospheres Panel, 2012
 Chair, Cassini Public Relations Working Group, 2006–2012
 Discovery Program Concept Study Phase A Review Panel, 2007
 Venera-D Joint US-Russia Science Definition Team, 2015-present
 Europa Enhancement Independent Review Team, 2015
 Venus Science Coordinating Group (VeSCooR) NASA-ESA 2023-

National Academy of Sciences

Space Studies Board, 1986–1992
 Committee on Planetary and Lunar Exploration, 1982–1986; Chairman, 1989–1992
 Study on “Space Science in the 21st Century,” Deputy Chair, Planetary, 1984–1986,
 SSB Steering Group, 1987–1988
 Future of Space Sciences, 1994–1995
 Panel to Review Explorer Program, 1996–1997
 Chair, Task Group on the Forward Contamination of Europa, 1999–2002
 Committee to Assess Solar System Exploration, 2006–2008
 Committee on Cost Growth in Earth and Space Science Missions, 2009–2010
 Workshop on Decadal Surveys, 2012
 Committee to Review NASA Planetary R&A, 2016 – 2018
 Planetary Decadal Survey: Steering Group; Vice-Chair Venus Panel; Co-Chair Circumplanetary Systems
 Writing Group; Member, Status of the Profession Writing Group and Discovery Missions Splinter Group.
 2020- present.

University of Colorado

Educational coordinator, Fiske Planetarium, 1984–1986
 LASP Executive Committee, 1990–2008
 Chair, LASP Program Review Self Study, 1991–1992
 Chancellor’s Task Force on Communications, 1993–1994
 Head, Division of Planetary and Atmospheric Sciences, 1993–1996
 APS Executive Committee, 1996–1998
 Freshman Experience Seminar Faculty Mentor, 1994–1997
 Norlin Scholars Advisory Board, 1997–1999
 LASP self-study, 1998–1999, 2005–2006
 Arts and Sciences Reallocation Advisory Committee, 1998–2002
 Chair, BFA Benefits and Compensation Committee, 2005–2006, Member 2007–2010
 Chair, APS Exam Committee, 2006–2007

PROFESSIONAL ORGANIZATIONS

Division for Planetary Sciences AAS (Committee, 1983–1986)
 American Geophysical Union, European Geophysical Union, International Astronomical Union
 COSPAR Commissions B and C
 Main Scientific Organizer, COSPAR Symposium “Planetary Atmospheres”, 2002, 2004, 2006, 2008, 2010, 2012,
 2014, 2016, 2020
 Convenor, AGU Chapman Conference on “Exploring Venus as a terrestrial planet”, 2004–2006
 Convenor, “Planetary Rings” AGU Fall Meeting, 2005 - 2018
 Co-Convenor, International Saturn Symposium, Saturn after Cassini-Huygens, 2006–2009
 Convenor, IUGG Symposium on Planetary and Heliospheric Geophysics, 2007
 Editor, “Exploring Venus as a Terrestrial Planet” AGU monograph, 2007
 Organizer, Workshop on climate change on Venus and Earth, 2007
 Guest Editor, *Icarus* Special Issue “Cassini at Saturn”, 2008 – 2010, “Planetary Rings”, 2013 - 2016
 Scientific Advisory Committee (Fachbeirat) Max Planck Institut for Solar System Research, 2009-present
 Organizer, Cassini Final Science Symposium, 2017–2018
 Guest Editor, *Icarus* special section on Cassini Science, 2018–2020.
 AGU College of Fellows Executive Committee and Chair, Mentoring Committee, 2019-present
 Venus Surface-Atmosphere Scientific Organizing Committee 2022–2023

HONORS AND AWARDS

NASA Group Achievement Awards: Pioneer Venus Orbiter Science Team 1980; Voyager PPS Team 1982, 1986; Galileo UVS Development 1991, Galileo Asteroid Encounters 1993, 1995; Cassini UVIS Development and Operations 1998, Cassini UVIS Science Investigation 2009, Cassini Ultraviolet Imaging Spectrograph Science Team 2018.

ESA Award for Outstanding Contribution to Venus Express 2016

Division for Planetary Sciences, Harold C. Urey Prize, 1985

NASA Medal for Exceptional Scientific Achievement, 1986

AAPT Richtmyer Memorial Lecture Award, 1991

National Academy of Sciences National Associate, 2002–present

JPL Distinguished Visiting Scientist 2004–2018

American Geophysical Union, Fellow, 2006–present, College of Fellows Executive Committee and Chair, Mentoring Committee, 2019–present

BIOGRAPHICAL LISTINGS

Continental Who's Who

Who's Who in Frontiers of Science and Technology

Who's Who in Science and Engineering

Who's Who of Emerging Leaders in America

Who's Who in the West

Who's Who in America

Who's Who in the World

RESEARCH INTERESTS

Observational and theoretical studies of planetary atmospheres and rings

PUBLICATIONS

Esposito, L. W., and E. R. Harrison. 1975. Properties of the Hulse-Taylor binary pulsar system. *Astrophys. J. (Letters)* 196, L1–L2. LASP reprint 901.

Esposito, L. W. 1976. Computation of the polarization of light scattered by the solar corona in Balmer Alpha, in *Fellowship Program in Scientific Computing; Internship Program for Minority Students*, ed. J. C. Adams and R. K. Rew, pp. 49–59. National Center for Atmospheric Research Technical Note. NCAR/TN/114 + PROC. LASP reprint 902.

Esposito, L. W. 1977. The two-stream approximation (or Shuster-Schwarzschild method), in *Standard Procedures to Compute Atmospheric Radiative Transfer in a Scattering Atmosphere*, ed. J. Lenoble, pp. 52–54. Boulder, Colorado: NCAR, Radiation Commission of the International Association of Meteorology and Atmospheric Physics (IAMAP). LASP reprint 903.

Esposito, L. W., and K. Lumme. 1977. The tilt effect for Saturn's rings. *Icarus* 31, 157–167. LASP reprint 407.

Lumme, K., L. W. Esposito, W. M. Irvine, and W. A. Baum. 1977. Azimuthal brightness variations of Saturn's rings, II: Observations at an intermediate tilt angle. *Astrophys. J. (Letters)* 216, L123–L126. LASP reprint 904.

Esposito, L. W. 1978. Light scattering from Saturn's rings calculated by a Markov chain formalism, Ph.D. diss., Astronomy Department, University of Massachusetts, Amherst. *Contribution from the Five College Observatories*, Number 261.

Esposito, L. W., and L. L. House. 1978. Radiative transfer calculated by a Markov chain formalism. *Astrophys. J.* 219, 1058–1067. LASP reprint 905.

Esposito, L. W., W. M. Irvine, K. Lumme, and W. A. Baum. 1978. Azimuthal brightness variations of Saturn's rings, in *Proceedings of the Symposium on Planetary Atmospheres*, ed. A. Vallance-Jones, pp. 89–91. Ottawa, Ontario: National Research Council of Canada. LASP reprint 906.

Harding, A. K., E. Tademaru, and L. W. Esposito. 1978. A curvature-radiation-pair-production model for gamma-ray pulsars. *Astrophys. J.* 225, 226–236. LASP reprint 907.

Esposito, L. W. 1979. An “adding” algorithm for the Markov chain formalism for radiation transfer. *Astrophys. J.* 233, 661–663. LASP reprint 69.

- Esposito, L. W. 1979. Extensions to the classical calculation of the effect of mutual shadowing in diffuse reflection. *Icarus* 39, 69-80. LASP reprint 71.
- Esposito, L. W., K. Lumme, W. D. Benton, L. J. Martin, H. M. Ferguson, D. T. Thompson, and S. E. Jones. 1979. International planetary patrol observations of Saturn's rings, II: Four color phase curves and their analysis. *Astron. J.* 84, 1408-1415. LASP reprint 68.
- Esposito, L. W., J. R. Winick, and A. I. Stewart. 1979. Sulfur dioxide in the Venus atmosphere: Distribution and implications. *Geophys. Res. Lett.* 6, 601-604. LASP reprint 70.
- Lumme, K., L. W. Esposito, W. D. Benton, and W. A. Baum. 1979. International planetary patrol observations of Saturn's rings, I: Observations and data reduction. *Astron. J.* 84, 1402-1407. LASP reprint 908.
- Pollack, J. B., B. Ragent, R. Boese, M. G. Tomasko, J. Blamont, R. G. Knollenberg, L. W. Esposito, A. I. Stewart, and L. Travis. 1979. Nature of the Ultraviolet absorber in the Venus clouds: Inferences based on Pioneer Venus data. *Science* 205, 76-79. LASP reprint 909.
- Stewart, A. I., D. E. Anderson, L. W. Esposito, and C. A. Barth. 1979. Ultraviolet spectroscopy of Venus: Initial results from the Pioneer Venus orbiter. *Science* 203, 777-779. LASP reprint 336.
- Esposito, L. W. 1980. Ultraviolet contrasts and the absorbers near the Venus cloud tops. *J. Geophys. Res.* 85, 8151-8157. LASP reprint 324.
- Esposito, L. W., J. P. Dilley, and J. W. Fountain. 1980. Photometry and polarimetry of Saturn's rings from Pioneer Saturn. *J. Geophys. Res.* 85, 5948-5956. LASP reprint 72.
- Gehrels, T., L. R. Baker, E. Beshore, C. Blenman, J. J. Burke, N. D. Castillo, B. DaCosta, J. Degewij, L. R. Dose, J. W. Fountain, J. Gotobed, C. E. KenKnight, R. Kingston, G. McLaughlin, R. McMillan, R. Murphy, P. H. Smith, C. P. Stoll, R. N. Strickland, M. G. Tomasko, M. P. Wijesinghe, D. L. Coffeen, and L. Esposito. 1980. Imaging photopolarimeter on Pioneer Saturn. *Science* 207, 434-439. LASP reprint 910.
- Knollenberg, R., L. Travis, M. Tomasko, P. Smith, B. Ragent, L. Esposito, D. McCleese, J. Martonchik, and R. Beer. 1980. The clouds of Venus: A synthesis report. *J. Geophys. Res.* 85, 8059-8081. LASP reprint 911.
- Pollack, J. B., O. B. Toon, R. C. Whitten, R. Boese, B. Ragent, M. Tomasko, L. Esposito, L. Travis, and D. Wiedman. 1980. Distribution and source of the UV absorption in Venus' atmosphere. *J. Geophys. Res.* 85, No. A13, 8141-8150. LASP reprint 912.
- Esposito, L. W. 1981. Absorbers seen near the Venus cloud tops from Pioneer Venus. *Adv. Space Res.* 1, 163-166. LASP reprint 340.
- Gehrels, T., and L. Esposito. 1981. Pioneer fly-by of Saturn and its rings. *Adv. Space Res.* 1, 67-71. LASP reprint 913.
- Thompson, W. T., K. Lumme, W. M. Irvine, W. A. Baum, and L. W. Esposito. 1981. Saturn's rings: Azimuthal variations, phase curves, and radial profiles in four colors. *Icarus* 46, 187-200. LASP reprint 319.
- Esposito, L. W., and L. D. Travis. 1982. Polarization studies of the Venus UV contrasts: Cloud height and haze variability. *Icarus* 51, 374-390. LASP reprint 332.
- Lane, A. L., C. W. Hord, R. A. West, L. W. Esposito, D. L. Coffeen, M. Sato, K. E. Simmons, R. B. Pomphrey, and R. B. Morris. 1982. Photopolarimetry from Voyager 2: Preliminary results on Saturn, Titan, and the rings. *Science* 215, 537-543. LASP reprint 914.
- Lane, A. L., R. B. Pomphrey, and L. W. Esposito. 1982. Probing the fine structure of Saturn's rings. *Planetary Report* 2, 7.
- Esposito, L. W., N. Borderies, P. Goldreich, J. N. Cuzzi, J. B. Holdberg, A. L. Lane, R. B. Pomphrey, R. J. Terrile, J. J. Lissauer, E. A. Marouf, and G. L. Tyler. 1983. Eccentric ringlet in the Maxwell gap at 1.45 Saturn radii: Multi-instrument Voyager observations. *Science* 222, 57-60. LASP reprint 278.
- Esposito, L. W., R. G. Knollenberg, M. Y. Marov, O. B. Toon, and R. P. Turco. 1983. The clouds and hazes of Venus. In *Venus*, ed. D. M. Hunten, L. Colin, T. M. Donahue, and V. I. Moroz, pp. 484-564. Tucson: Univ. of Arizona Press.
- Esposito, L. W., M. O'Callaghan, and R. A. West. 1983. The structure of Saturn's rings: Implications from the Voyager stellar occultation. *Icarus* 56, 439. LASP reprint 205.
- Esposito, L. W., M. O'Callaghan, K. E. Simmons, C. W. Hord, R. A. West, A. L. Lane, R. B. Pomphrey, D. L. Coffeen, and M. Sato. 1983. Voyager photopolarimeter stellar occultation of Saturn's rings. *J. Geophys. Res.* 88, 8643-8649. LASP reprint 208.
- Lumme, K., W. M. Irvine, and L. W. Esposito. 1983. Theoretical interpretation of the ground-based photometry of Saturn's B ring. *Icarus* 53, 174-184. LASP reprint 370.
- West, R. A., C. W. Hord, K. E. Simmons, H. Hart, L. W. Esposito, A. L. Lane, R. B. Pomphrey, R. B. Morris, M. Sato, and D. Coffeen. 1983. Voyager photopolarimeter observations of Saturn and Titan. *Adv. Space Res.* 3, 45-48. LASP reprint 56.

- West, R. A., A. L. Lane, H. Hart, K. E. Simmons, C. W. Hord, D. L. Coffeen, L. W. Esposito, M. Sato, and R. B. Pumphrey. 1983. Voyager 2 photopolarimeter observations of Titan. *J. Geophys. Res.* 88, 8699–8708. LASP reprint 239.
- West, R. A., M. Sato, H. Hart, A. L. Lane, C. W. Hord, K. E. Simmons, L. W. Esposito, D. L. Coffeen, and R. B. Pumphrey. 1983. Photometry and polarimetry of Saturn at 2640 Å and 7500 Å. *J. Geophys. Res.* 88, 8679–8697. LASP reprint 279.
- Cuzzi, J. N., J. J. Lissauer, L. W. Esposito, J. B. Holberg, E. A. Marouf, G. L. Tyler, B. Pederson, and A. Boischoat. 1984. The rings of Saturn. In *Planetary Rings*, ed. A. Brahic. Tucson: Univ. of Arizona Press.
- Esposito, L. W. 1984. Structure and dynamics of Saturn's rings as seen by the Voyager stellar occultation. Proceedings of IAU Colloquium 75. Toulouse, France: CNES.
- Esposito, L. W. 1984. Sulfur dioxide: Episodic injection shows evidence for active Venus volcanism. *Science* 223, 1072–1074. LASP reprint 204.
- Esposito, L. W., J. N. Cuzzi, J. B. Holberg, E. A. Marouf, G. L. Tyler, and C. C. Porco. 1984. Saturn's rings: Structure, dynamics, and particle properties. In *Saturn*, ed. T. Gehrels and M. S. Matthews, pp. 463–545. Tucson: Univ. of Arizona Press.
- Esposito, L. W. 1985. Long term changes in Venus sulfur dioxide. *Adv. Space Res.* 5, 85–90. LASP reprint 61.
- Esposito, L. W. 1986. Structure and evolution of Saturn's rings. *Icarus* 67, 345–357. LASP reprint 387.
- Lane, A. L., C. W. Hord, L. W. Esposito, K. E. Simmons, A. L. Graps, W. R. Pryor, R. A. West, R. M. Nelson, B. D. Wallis, B. J. Buratti, and L. J. Horn. 1986. Photometry from Voyager 2: Initial results from the Uranian atmosphere, satellites, and rings. *Science* 233, 65–70. LASP reprint 377.
- Ragent, B., L. W. Esposito, M. G. Tomasko, M. Y. Marov, V. P. Shari, and V. N. Lebedev. 1986. Particulate matter in the Venus atmosphere. In *Venus International Reference Atmosphere*, ed. G. M. Keating. Elsevier Science.
- Showalter, M. R., J. N. Cuzzi, E. A. Marouf, and L. W. Esposito. 1986. Satellite “wakes” and the orbit of the Encke gap moonlet. *Icarus* 66, 297–323. LASP reprint 366.
- Cuzzi, J. N., and L. W. Esposito. 1987. The rings of Uranus. *Sci. Amer.* 255, 52–54, 63–66. LASP reprint 398.
- Esposito, L. W. 1987. The changing shape of planetary rings. *Astronomy* 15, 6–17. LASP reprint 915.
- Esposito, L. W. 1987. Venus. In *McGraw-Hill 1987 Yearbook of Science and Technology*, pp. 495–497. New York: McGraw-Hill. LASP reprint 916.
- Esposito, L. W., C. C. Harris, and K. E. Simmons. 1987. Features in Saturn's rings. *Astrophys. J. Supp.* 63, 749–770. LASP reprint 396.
- Miner, E. D., A. P. Ingersoll, W. Kurth, L. W. Esposito, and T. V. Johnson. 1987. Science objectives and preliminary sequence designs for the Voyager Neptune encounter. Jet Propulsion Laboratory, JPL TM D-4607.
- Nelson, R. M., B. J. Buratti, B. D. Wallis, A. L. Lane, R. A. West, K. E. Simmons, C. W. Hord, and L. W. Esposito. 1987. Voyager 2 photopolarimeter observations of the Uranian satellites. *J. Geophys. Res.* 92, 14905–14910. LASP reprint 917.
- West, R. A., A. L. Lane, C. W. Hord, L. W. Esposito, K. E. Simmons, R. M. Nelson, and B. D. Wallis. 1987. Temperature and aerosol structure of the nightside Uranian stratosphere from Voyager 2 photopolarimeter stellar occultation measurements. *J. Geophys. Res.* 92, No. A13, 15030–15036. LASP reprint 918.
- Esposito, L. W., M. Copley, R. Eckert, L. Gates, A. I. F. Stewart, and H. Worden. 1988. Sulfur dioxide at the Venus cloud tops, 1978–1986. *J. Geophys. Res.* 93, 5267–5276. LASP reprint 435.
- Horn, L. J., P. A. Yanamandra-Fisher, L. W. Esposito, and A. L. Lane. 1988. Physical properties of the Uranian delta ring from a possible density wave. *Icarus* 76, 485–492. LASP reprint 444.
- Stern, S. A., L. W. Esposito, and E. S. Barker. 1988. Ground-based CCD observations of Venus SO₂: 1986–87. Laboratory for Atmospheric and Space Physics, LASP Technical Report and reprint 425.
- Brophy, T. G., and L. W. Esposito. 1989. Simulation of collisional transport processes and the stability of planetary rings. *Icarus* 78, 181–205. LASP reprint 446.
- Esposito, L. W., and J. E. Colwell. 1989. Creation of the Uranus rings and dust bands, *Nature* 339, 605–607. LASP reprint 455.
- Lane, A. L., R. A. West, C. W. Hord, R. M. Nelson, K. E. Simmons, W. R. Pryor, L. W. Esposito, L. J. Horn, B. D. Wallis, B. J. Buratti, T. G. Brophy, P. Yanamandra-Fisher, J. E. Colwell, D. A. Bliss, M. J. Mayo, and W. D. Smythe. 1989. Photometry from Voyager 2: Initial results from the Neptunian atmosphere, satellites, and rings. *Science* 246, 1450–1454. LASP reprint 919.
- Brophy, T. G., G. R. Stewart, and L. W. Esposito. 1990. A phase-space fluid simulation of a two-component narrow planetary ring: Particle size segregation, edge formation, and spreading rates. *Icarus* 83, 133–155. LASP reprint 467.

- Colwell, J. E., and L. W. Esposito. 1990. A model of dust production in the Neptune ring system. *Geophys. Res. Lett.* 17, 1741–1744. LASP reprint 503.
- Colwell, J. E., and L. W. Esposito. 1990. A numerical model of the Uranian dust rings. *Icarus* 86, 530–560. LASP reprint 494.
- Colwell, J. E., L. J. Horn, A. L. Lane, L. W. Esposito, P. A. Yanamandra-Fisher, S. H. Pilorz, K. E. Simmons, M. D. Morrison, C. W. Hord, R. M. Nelson, B. D. Wallis, R. A. West, and B. J. Buratti. 1990. Voyager photopolarimeter observations of Uranian ring occultations. *Icarus* 83, 102–125. LASP reprint 473.
- Esposito, L. W. 1990. Does Venus have active volcanos? *Astronomy* 18, 42–47. LASP reprint 921.
- Esposito, L. W. 1990. Sulfur dioxide and its variations. In *Middle Atmosphere of Venus*. Akademie der Wissenschaften der DDR. LASP reprint 514.
- Esposito, L. W. 1990. Variation of the sulfur dioxide concentration in the atmosphere of Venus and the concept of active volcanism. Translated from *Astronomicheskii Vestnik* 24, 57–58. LASP reprint 920.
- Na, C. Y., L. W. Esposito, and T. E. Skinner. 1990. International Ultraviolet Explorer observation of Venus SO₂ and SO. *J. Geophys. Res.* 95, 7485–7491. LASP reprint 485.
- Esposito, L. W. 1991. Planetary rings: Ever decreasing circles. *Nature* 354, 107. LASP reprint 574.
- Esposito, L. W., A. Brahic, J. Burns, and E. A. Marouf. 1991. Particle properties and processes in Uranus' rings. In *Uranus*, ed. J. Bergstralh, E. D. Miner, and M. Matthews, pp. 410–465. Tucson: Univ. of Arizona Press.
- Moreau, D., L. W. Esposito, and G. Brasseur. 1991. The chemical composition of the dust-free Martian atmosphere: Preliminary results of a two-dimensional model. *J. Geophys. Res.* 96, 7933–7945. LASP reprint 573.
- Moroz, V. I., E. V. Petrova, L. V. Ksanfomality, O. F. Ganpantzerova, N. V. Goroshkova, A. V. Zharkov, G. E. Nikitin, L. Esposito, J.-P. Bibring, M. Combes, and A. Soufflot. 1991. Characteristics of aerosol phenomena in the Martian atmosphere from KRFM experiment data. *Plan. Space Sci.* 39, 199–207. LASP reprint 523.
- Brophy, T. G., L. W. Esposito, G. R. Stewart, and P. A. Rosen. 1992. Numerical simulation of satellite-ring interactions: Resonances and satellite-ring torques. *Icarus* 100, 412–433. LASP reprint 554.
- Colwell, J. E., and L. W. Esposito. 1992. Origins of the rings of Uranus and Neptune, I: Statistics of satellite disruptions. *J. Geophys. Res. (Planets)* 97, 10227–10241. LASP reprint 545.
- Esposito, L. W. 1992. Planetary rings: Running rings around modellers. *Nature* 360, 531–532. LASP reprint 922.
- Hord, C. W., W. E. McClintock, A. I. F. Stewart, C. A. Barth, L. W. Esposito, G. E. Thomas, B. R. Sandel, D. M. Hunten, A. L. Broadfoot, D. E. Shemansky, J. M. Ajello, A. L. Lane, and R. A. West. 1992. Galileo Ultraviolet Spectrometer experiment. *Space Sci. Rev.* 60, 503–530. LASP reprint 544.
- McClintock, W. E., G. M. Lawrence, R. A. Kohnert, and L. W. Esposito. 1992. Optical design of the ultraviolet imaging spectrograph for the Cassini mission to Saturn, from *Instrumentation for Planetary and Terrestrial Atmospheric Remote Sensing*. SPIE 1745, 26–38. LASP reprint 568.
- Colwell, J. E., and L. W. Esposito. 1993. Origins of the rings of Uranus and Neptune, 2: Initial conditions and ring moon populations. *J. Geophys. Res. (Planets)* 98, 7387–7401. LASP reprint 562.
- Esposito, L. W. 1993. Understanding planetary rings. *Ann. Rev. Earth Planet. Sci.* 21, 487–523. LASP reprint 566.
- McClintock, W. E., G. M. Lawrence, R. A. Kohnert, and L. W. Esposito. 1993. Optical design of the ultraviolet imaging spectrograph for the Cassini mission to Saturn. *Opt. Eng.* 32, 3038–3046. LASP reprint 612.
- Zasova, L. V., V. I. Moroz, L. W. Esposito, and C. Y. Na. 1993. SO₂ in the middle atmosphere of Venus: IR measurements from Venera-15 and comparison to UV data. *Icarus* 105, 92–109. LASP reprint 584.
- Na, C. Y., L. W. Esposito, W. E. McClintock, and C. A. Barth. 1994. Sulfur dioxide in the atmosphere of Venus, II. Modeling results. *Icarus* 112, 389–395. LASP reprint 646.
- Canup, R. M., and L. W. Esposito. 1995. Accretion in the Roche zone: Coexistence of rings and ringmoons. *Icarus* 113, 331–352. LASP reprint 640.
- Hord, C. W., W. R. Pryor, A. I. F. Stewart, K. E. Simmons, J. J. Gebben, C. A. Barth, W. E. McClintock, L. W. Esposito, W. K. Tobiska, R. A. West, S. J. Edberg, J. M. Ajello, and K. L. Naviaux. 1995. Direct observations of the Comet Shoemaker-Levy 9 fragment G impact by Galileo UVS. *Geophys. Res. Lett.* 22, 1565–1568. LASP reprint 651.
- Porco, C. C., J. N. Cuzzi, L. W. Esposito, J. J. Lissauer, and P. O. Nicholson. 1995. Neptune's Ring System. In *Neptune and Triton*, ed. J. Bergstralh, E. D. Miner, and M. S. Mathews, pp. 703–804. Tucson: Univ. of Arizona Press.
- Thiessenhusen, K. U., L. W. Esposito, J. Kurths, and F. Spahn. 1995. Detection of hidden resonances in Saturn's B-ring. *Icarus* 113, 206–212. LASP reprint 923.

- Canup, R. M., and L. W. Esposito. 1996. Accretion of the Moon from an impact-generated disk. *Icarus* 119, 427–446. LASP reprint 675.
- Canup, R. M., and L. W. Esposito. 1997. Evolution of the G ring and the population of macroscopic ring particles. *Icarus* 126, 28–41. LASP reprint 700.
- Esposito, L. W., J.-L. Bertaux, V. Krasnopolsky, V. I. Moroz, and L. V. Zasova. 1997. Chemistry of lower atmosphere and clouds. In *Venus II*, ed. S. W. Bougher, D. M. Hunten, and R. J. Phillips, pp. 415–458. Tucson: Univ. of Arizona Press.
- Na, C. Y., and L. W. Esposito. 1997. Is disulfur monoxide the second absorber on Venus? *Icarus* 125, 361–368. LASP reprint 695.
- Esposito, L. W., J. E. Colwell, and W. E. McClintock. 1998. Cassini UVIS observations of Saturn's rings. *Planet. Space Sci.* 46, 1221–1235. LASP reprint 753.
- Harri, A.-M., V. Linkin, J. Polkko, M. Marov, J.-P. Pommereau, A. Lipatov, T. Siili, K. Manuilov, V. Lebedev, A. Lehto, R. Pellinen, R. Pirjola, T. Carpentier, C. Malique, V. Makarov, L. Khloustova, L. Esposito, J. Maki, G. Lawrence, and V. Lystsev. 1998. Meteorological observations on Martian surface: Met-packages of Mars—96 small stations and penetrators. *Planet. Space Sci.* 46, No. 6/7, 779–793. LASP reprint 744.
- Throop, H. B., and L. W. Esposito. 1998. G ring particle sizes derived from ring plane crossing observations. *Icarus* 131, 152–166. LASP reprint 752.
- Colwell, J. W., L. W. Esposito, and D. Bundy. 2000. Fragmentation rates of small satellites in the outer solar system. *J. Geophys. Res.* 105, 17,589–17,599. LASP reprint 806.
- Throop, H. B., J. Bally, L. W. Esposito, and M. J. McCaughrean. 2001. Evidence for dust grain growth in young circumstellar disks. *Science* 292, 1686–1689. LASP reprint 899.
- Barbara, J. M., and L. W. Esposito. 2002. Moonlet collisions and the effects of tidally modified accretion in Saturn's F ring. *Icarus* 160, 161–171. LASP reprint 864.
- Blanc, M, Bolton, S, Bradley, J, Burton, M, Cravens, TE, Dandouras, I, Dougherty, MK, Festou, MC; Feynman, J, Johnson, RE, Gombosi, TG, Kurth, WS, Liewer, PC, Mauk, BH, Maurice, S, Mitchell, D, Neubauer, FM, Richardson, JD, Shemansky, DE, Sittler, EC, Tsurutani, BT, Zarka, P, Esposito, LW, Grun, E, Gurnett, DA, Kliore, AJ, Krimigis, SM, Southwood, D, Waite, JH, Young, DT. 2002. Magnetospheric and plasma science with Cassini-Huygens. *Space Science Reviews*. 104, Issue 1-2, 253-346. LASP reprint 1057.
- Cuzzi, J.N., J.E. Colwell, L.W. Esposito, C.C. Porco, C.D. Murray, P.D. Nicholson, L.J. Spilker, E.A. Marouf, R.C. French, N. Rappaport and D. Muhleman. 2002. Saturn's Rings: pre-Cassini Status and Mission Goals. *Space Sci. Rev.* 104, 209-251. LASP reprint 1008.
- Esposito, L. W. 2002. Planetary rings. *Rep. Prog. Phys.* 65, 1741–1783. LASP reprint 874.
- Esposito, Larry. 2003. Cassini Imaging at Jupiter. *Science* 299, 1529-1530. LASP reprint 900.
- Richardson, L. J., D. Deming, G. Wiedemann, C. Goukenleuque, D. Steyert, J. Harrington, and L. W. Esposito. 2003. Infrared observations during the secondary eclipse of HD 209458b, I. 3.6-micron occultation spectroscopy using the VLT. *Astrophys. J.* 584, 1053-1062. LASP reprint 998.
- Brooks, S. M., L. W. Esposito, M. R. Showalter, and H. B. Throop. 2004. The size distribution of Jupiter's main ring from Galileo imaging and spectroscopy. *Icarus*. 170, 35-57. LASP reprint 973.
- Esposito, L. W., C. A. Barth, J. E. Colwell, G. M. Lawrence, W. E. McClintock, A. I. F. Stewart, H. U. Keller, A. Korth, H. Lauche, M. C. Festou, A. L. Lane, C. J. Hansen, J. N. Maki, R. A. West, H. Jahn, R. Reulke, K. Warlich, D. E. Shemansky, and Y. L. Yung. 2004. The Cassini Ultraviolet Imaging Spectrograph investigation. *Space Sci. Rev.* 115, 294-361. LASP reprint 999.
- Esposito, L.W., J. E. Colwell, K. Larsen, W. E. McClintock, A. I. F. Stewart, J. Tew Hallett, D. E. Shemansky, J. M. Ajello, C. J. Hansen, A. R. Hendrix, R. A. West, H. U. Keller, A. Korth, W. R. Pryor, R. Reulke and Y. L. Yung. 2005. Ultra-Violet Imaging Spectroscopy shows an active Saturn system. *Science*. 307, 1251-1255. LASP reprint 1000.
- Ajello, Joseph M., Pryor, W., Esposito, L.W., Gustin, J., Clarke, J.T. 2005. The Cassini Campaign Observations of the Jupiter Aurora by the Ultraviolet Imaging Spectrograph and the Space Telescope Imaging Spectrograph. *Icarus* 178 327-345. LASP reprint 1025.
- Pryor, W.R., A. I. F. Stewart, Larry W. Esposito and, J. E. Colwell, A. J. Jouchoux, A. J. Steffl, D. E. Shemansky, J. M. Ajello, R. A. West, C. J. Hansen, B. T. Tsurutani, W. S. Kurth, G. B. Hospodarsky, D. A. Gurnett, K. C. Hansen, J. H. Waite, Jr., F. J. Crary, D. T. Young, N. Krupp, J. T. Clarke, D. Grodent, and M. K. Dougherty. 2005. Cassini UVIS observations of Jupiter's auroral variability. *Icarus*, 178, 312–326. LASP reprint 1058.
- Shemansky, D.E., A.I.F. Stewart, R. A. West, L.W. Esposito, J.T. Hallet, X. Liu. 2005. The Cassini UVIS stellar probe of the Titan atmosphere. *Science*. 308, 978-982. LASP reprint 1012.

- Esposito, L.W., 2006. *Planetary Rings*, Cambridge, UK: Cambridge University Press.
- Colwell, J. E., L. W. Esposito, and M. Sremcevic. 2006. Self-Gravity Wakes in Saturn's A ring measured by Stellar Occultations from Cassini. *GRL*, 33, L07201, doi:10.1029/2005GL025163. LASP reprint 1053.
- Hansen, C. J., L. W. Esposito, A. R. Hendrix, W. Pryor, A. I. F. Stewart, D. E. Shemansky, R. A. West. 2006. Cassini UltraViolet Imaging Spectrograph (UVIS) Investigation of Enceladus' Water Vapor Plume. *Science*, 311, no.5766. 1422-1425. LASP reprint 1061.
- Ajello, J. M., M. H. Stevens, A. I. F. Stewart, K. Larsen, L. W. Esposito, J.E. Colwell, W. E. McClintock, G. Holsclaw, J. Gustin, W. R. Pryor. 2007. Titan Airglow Spectra from Cassini UVIS: I. EUV Analysis. *Geophys. Res. Lett.* 34, L24204, doi:10.1029/2007GL031555. LASP Reprint #1092.
- Colwell, J.E., L. W. Esposito, M. Sremcevic, G. R. Stewart, and W. E. McClintock. 2007. Self-Gravity Wakes and Radial Structure of Saturn's B Ring. *Icarus*, 190, 137-144. LASP reprint 1089.
- Esposito, L.W., E.R. Stofan, T. Cravens. 2007. Exploring Venus. Introductory chapter to "Exploring Venus as a terrestrial planet", *AGU Monograph Series*, Volume 176, 1-6. No LASP Reprint, book.
- Markiewicz, W.J., D.V. Titov, N. Ignatiev, H.U. Keller, D. Crisp, S.S. Limaye, R. Jaumann, R. Moissl, N. Thomas, L. Esposito, S. Watanabe, B. Fiethe, T. Behnke, I. Szemerey, H. Michalik, H. Perplies, M. Wedemeier, I. Sebastian, W. Boogaerts, S.F. Hviid, C. Dierker, B. Osterloh, W. Boker, M. Koch, H. Michaelis, D. Belyaev, A. Dannenberg, M. Tschimmel, P. Russo, T. Roatsch, K.D. Matz. Venus Monitoring Camera for Venus Express. 2007. *Planetary and Space Science*. 55, 1701-1711. LASP reprint 1091.
- Mills, F.P., L.W. Esposito, Y.L. Yung. 2007. Atmospheric composition, chemistry and clouds. A chapter in "Exploring Venus as a terrestrial planet", *AGU Monograph Series*, Volume 176, 73-100. No LASP Reprint, book.
- Tian, F., A.I.F. Stewart, Owen B. Toon, Kristopher Larsen, Larry W. Esposito. 2007. Monte Carlo Simulations of the water vapor plume on Enceladus. *Icarus* 188, 154-161. LASP reprint 1087.
- Ajello, J. J. Gustin, A.I.F. Stewart, K. Larsen, L.W. Esposito, W. Pryor, W. McClintock, M. H. Stevens, C.P. Malone and D. Dziczek. 2008. Titan airglow spectra from the Cassini Ultraviolet Imaging Spectrograph: FUV disk analysis. *Geophys. Res. Lett.* 35, L06102, doi:10.1029/2007GL032315. LASP Reprint #TBD.
- André, N.; M. Blanc, S. Maurice, P. Schippers, E. Pallier, T.I. Gombosi, K.C. Hansen, D.T. Young, F.J. Crary, S. Bolton, E.C. Sittler, H.T. Smith, R.E. Johnson, R. A. Baragiola, A. J. Coates, A. M. Rymer, M.K. Dougherty, N. Achilleos, C.S. Arridge, S.M. Krimigis, D.G. Mitchell, N. Krupp, D. C. Hamilton, I. Dandouras, D. A. Gurnett, W.S. Kurth, P. Louarn, R. Srama, S. Kempf, H.J. Waite, L.W. Esposito, J.T. Clarke. 2008. Identification of Saturn's Magnetospheric Regions and Associated Plasma Processes: Synopsis of Cassini Observations During Orbit Insertion, *Rev. Geophys.* 46, RG4008, doi:10.1029/2007RG000238.
- Esposito, L.W., B. K. Meinke, J.E. Colwell, P.D. Nicholson, M.M. Hedman. 2008. Moonlets and Clumps in Saturn's F Ring. *Icarus*. Vol 194/1, 278-289. LASP reprint 1102.
- Hansen, C. J., Esposito, L.W., Stewart, A.I.F., Meinke, B., Wallis, B., Colwell, J., Hendrix, A.R., Larsen, K., Pryor, W., Tian, F.. 2008. Water Vapor Jets in Enceladus' Plume. *Nature*. 456, 477-479.
- Pryor, W., P. Gangopadhyay, B. Sandel, T. Forrester, E. Quemerais, E. Moebius, L. Esposito, I. Stewart, B. McClintock, A. Jouchoux, J. Colwell, V. Izmodenov, Y. Malama, K. Tobiska, D. Shemansky, J. Ajello, C.Hansen, and M. Bzowski. 2008. Radiation transport of heliospheric Lyman-alpha from combined Cassini and Voyager data sets. *Astronomy and Astrophysics*. A&A 491, 21-28.
- Charnoz, S., L. Dones, L.W. Esposito, P.R. Estrada, M.M. Hedman. 2009. Origin and evolution of Saturn's ring system, A chapter in the book *Saturn From Cassini-Huygens*. M. Dougherty et al. Eds. 17, 537-575. Dordrecht, Netherlands, Springer-Verlag.
- Colwell, J. E., Cooney, J. H., Esposito, L. W., Sremcevic, M. 2009. Density Waves in Cassini UVIS Stellar Occultations 1. The Cassini Division. *Icarus*. 200, 574-580.
- Dougherty, M.K., Esposito, L. W. and Krimigis, S.M., Eds. 2009. Overview. In *Saturn from Cassini-Huygens*. M. Dougherty et al. Eds. pp.1-8. Dordrecht, Netherlands, Springer-Verlag.
- Dougherty, M.K., Esposito, L. W. and Krimigis, S.M., Eds. 2009. *Saturn from Cassini-Huygens*. Dordrecht, Netherlands: Springer-Verlag.
- Spencer, J.R., A. C. Barr, L.W. Esposito, P. Helfenstein, A.P. Ingersoll, R. Jaumann, C.P. McKay, F. Nimmo, C.C. Porco, J.H. Waite. 2009. Enceladus: An Active Cryovolcanic Satellite. A chapter in the book *Saturn From Cassini-Huygens*. M. Dougherty et al. Eds. 21, 683-724. Dordrecht, Netherlands, Springer-Verlag.
- Bradley, E. T., Colwell, J.E., Esposito, L.W., Cuzzi, J.N., Tollerud, H., Chambers, L., 2010. Far Ultraviolet Spectral Properties of Saturn's Rings from Cassini UVIS. *Icarus*. 206, 458-466
- Colwell, J. E., L. W. Esposito, R. G. Jrousek, M. Sremcevic, D. Pettis, E. T. Bradley. 2010. Cassini UVIS Stellar Occultation Observations of Saturn's Rings. *Astron. J.* 140 1569
- Esposito, L.W. 2010. Composition, Structure, Dynamics and Evolution of Saturn's rings. *Annual Review of Earth & Planetary Sciences*, 38, 383-410.

- Esposito, L.W., A.R. Hendrix, Eds. 2010. Introduction to Special Issue. Saturn's Rings and Icy Satellites from Cassini, *Icarus*. 206, 381.
- Cuzzi, J.N., J. A. Burns, S. Charnoz, R. N. Clark, J. E. Colwell, L. Dones, L. W. Esposito, G. Filacchione, R. G. French, M. M. Hedman, S. Kempf, E. A. Marouf, C. D. Murray, P. D. Nicholson, C. C. Porco, J. Schmidt, M. R. Showalter, L. J. Spilker, J. N. Spitale, R. Srama, M. Sremčević, M. S. Tiscareno, J. Weiss. 2010. An Evolving View of Saturn's Dynamic Rings. *Science*. 327, 1470-1475, doi:10.1126/science.1179118.
- Gustin, J., I. Stewart, J.-C. Gerard, L.W. Esposito. 2010. Characteristics of Saturn's FUV airglow from limb viewing spectra obtained with Cassini-UVIS. *Icarus*. 210 (2010), 270-283.
- Hedelt, P., Y. Ito, H.U. Keller, R. Reulke, P. Wurz, H. Lammer, H. Rauer, L. Esposito. 2010. Titan's atomic hydrogen corona. *Icarus*. Volume 210, Issue 1, p. 424-435.
- Baillié, K., J. E. Colwell, J. J. Lissauer, L. W. Esposito, M. Sremcevic 2011. Waves in Cassini UVIS Stellar Occultations 2. Waves in the C Ring. *Icarus*. Volume 216, Issue 1, Pages 292–308. doi: 10.1016/j.icarus.2011.05.019.
- Elliott, J.P. and L.W. Esposito. 2011. Regolith Depth Growth on an Icy Body Orbiting Saturn and Evolution of Bidirectional Reflectance due to Surface Composition Changes. *Icarus*, 212, 268–274. doi:10.1016/j.icarus.2010.10.031.
- Esposito, L.W., N. Albers, B. K. Meinke, M. Sremcevic, Pr. Madhusudhanan, J. Colwell, R. G. Jerousek. 2012. A Predator-Prey Model for Moon-triggered Clumping in Saturn's Rings. *Icarus*. 217, 1, 103-114.
- Gerard, J.-C., J. Gustin, B. Hubert, G.R. Gladstone and L.W. Esposito. 2011. Measurements of the Helium 584Å airglow during the Cassini flyby of Venus. *Planetary Space Sci*. Volume 59, Issue 13, Pages 1524–1528.
- Gérard, J.-C., B. Hubert, J. Gustin, V. I. Shematovich, D. Bisikalo, L. Esposito, A.I. Stewart, 2011. EUV spectroscopy of the Venus dayglow with UVIS on Cassini. *Icarus*. 211, 1, 70-80.
- Hansen, C. J., D. E. Shemansky, L. W. Esposito, A. I. F. Stewart, B. R. Lewis, J. E. Colwell, A. R. Hendrix, R. A. West. 2011. The Composition and Structure of the Enceladus Plume. *GRL*. 38, L11202, doi:10.1029/2011GL047415.
- Jerousek, R. G., Colwell, J. E., Esposito, L. W. 2011. Morphology and Variability of The Titan Ringlet and Huygens Ringlet Edges. *Icarus*. Volume 216, Issue 1, Pages 280–291.
- Pryor W.R., A.M. Rymer, D.G. Mitchell, T.W. Hill, D.T. Young, J. Saur, G.H. Jones, S. Jacobsen, S.W.H. Cowley, B.H. Mauk, A.J. Coates, J. Gustin, D. Grodent, J.-C. Gérard, L. Lamy, J. D. Nichols, S.M. Krimigis, L.W. Esposito, M.K. Dougherty, A. Jouchoux, A.I.F. Stewart, W.E. McClintock, G.M. Holsclaw, J.M. Ajello, J.E. Colwell, A.R. Hendrix, F.J. Crary, J.T. Clarke, X. Zhou. 2011. The Enceladus auroral footprint at Saturn. *Nature*. 472, 331-333. doi:10.1038/nature09928
- Stevens, M.H., J. Gustin, J.M. Ajello, J.S. Evans, R.R. Meier, A. J. Kochenash, A.W. Stephan, A.I.F. Stewart, L.W. Esposito, W.E. McClintock, G. Holsclaw, E. T. Bradley, B.R. Lewis. 2011. The Production of Titan's Far Ultraviolet Nitrogen Airglow. *JGR*. 116, A05304, doi:10.1029/2010JA016284.
- Xu, F, A. B. Davis, R. A. West and L. W. Esposito. 2011. Markov chain formalism for polarized light transfer in plane-parallel atmospheres, with numerical comparison to the Monte Carlo method. *Optics Express*. Vol. 19, 2, 946-967.
- Ajello, J.M, M.H. Stevens, J. Gustin, K. Larsen, A.I.F. Stewart, L.W. Esposito, W.E. McClintock, G.M. Holsclaw, E.T. Bradley. 2012. Cassini UVIS Observations of Titan Nightglow Spectra. *JGR*. VOL. 117, A12315, doi:10.1029/2012JA017888
- Albers, N, M. Sremcevic, J.E. Colwell, and L.W. Esposito. 2012. Saturn's F Ring as seen by Cassini UVIS: Kinematics and Statistics. *Icarus*. Volume 217, p. 367-388, doi:10.1016/j.icarus.2011.11.016.
- Meinke, B.K., L. W Esposito, N. Albers, M. Sremcevic, C. Murray. 2012. Classification of F ring features observed in Cassini UVIS occultations. *Icarus*. 218, 1, p.545-554, doi:10.1016/j.icarus.2011.12.020
- Molaverdikhani, K., K. McGouldrick, L. W. Esposito. 2012. The abundance and vertical distribution of the unknown ultraviolet absorber in the venusian atmosphere from analysis of Venus Monitoring Camera images. *Icarus* 217 (2012) 648–660, doi:10.1016/j.icarus.2011.08.008
- Titov, D.V., Markiewicz, W.J., Ignatiev, N.I., Song, L., Limaye, S.S., Sanchez-Lavega, A., Hesemann, J., Almeida, M., Roatsch, T., Matz, K-D., Scholten, F., Crisp, D., Esposito, L.W., Hviid, S.F., Jaumann, R., Keller, H.U., Moissl, R. 2012. Morphology of the cloud tops as observed by the Venus Express Monitoring Camera. *Icarus*. 217 (2012) 682–701, doi:10.1016/j.icarus.2011.06.020.
- Esposito, L.W. 2013. Rising sulphur on Venus. *Nature Geoscience*. Vol 6, 20-21. doi:10.1038/ngeo1675
- Baillié, K., Colwell, J. E., Esposito, L. W. 2013. Meter-sized moonlet population in Saturn's C ring and Cassini Division. *Astron. J*, 145, 171. doi:10.1088/0004-6256/145/6/171
- Torres, P.J., Madhusudhanan, P., Esposito, L.W. 2013. Mathematical analysis of a model for moon-triggered clumping in Saturn's rings. *Physica D*. 259, 55-62. http://dx.doi.org/10.1016/j.physd.2013.06.002

- Bradley, E.T., J.E. Colwell, L.W. Esposito, 2013. Scattering properties of Saturn's rings from Cassini UVIS spectra. *Icarus*, 225, 726-739. <http://dx.doi.org/10.1016/j.icarus.2013.04.008>
- Esposito, L.W., Colaprete, A., English, J., Haberle, R.M., Kahre, M.A. 2014. Clouds and aerosols on the terrestrial planets. In Comparative climatology of terrestrial planets. S. Mackwell, Ed. University of AZ Press, Tucson, AZ. Pp. 329-353. <http://www.barnesandnoble.com/w/comparative-climatology-of-terrestrial-planets-steve-mackwell/1115100100?ean=9780816530595>
- Esposito, L.W. 2014. *Planetary Rings. A post-equinox view*. Cambridge, UK: Cambridge University Press.
- Shemansky, D.E., Y. L. Yung, X. Liu, J. Yoshii, C. J. Hansen, A. R. Hendrix, and L.W. Esposito. 2014. A new understanding of the Europa atmosphere and limits on geophysical activity, *ApJ* 797:84. doi: 10.1088/0004-637X/797/2/84.
- Esposito, L.W. 2014. Saturn's Rings. Discoveries in Modern Science. Ed. James Trefil. Vol. 3. Farmington Hills, MI: Macmillan Reference USA. p987-991.
- Stevens, M., Evans, S., Lumpe, J. Westlake, J.H., Ajello, J.M., Bradley, T., Esposito, L.W. 2015. Molecular Nitrogen and Methane Density Retrievals from Cassini UVIS Dayglow Observations of Titan's Upper Atmosphere. *Icarus*, 247, 301-312.
- Parkinson, C. D., Yung, Y.L., Esposito, L.W., Gao, P., Bougher, S.W., and Hirtzig, M.. 2015. Photochemical Control of the Distribution of Venusian Water and Comparison to Venus Express SOIR Observations. *PSS*, 113-114, p 226-236.
- Becker, T. M., J. E. Colwell, L. W. Esposito, and A. D. Bratcher 2016. Characterizing the Particle Size Distribution of Saturn's A Ring with Cassini UVIS Occultation Data. *Icarus*, **279**, 20-35.
- Jerousek, R. G., J. E. Colwell, P. D. Nicholson, M. M. Hedman, L. W. Esposito. 2016. The Smallest Particles in Saturn's Rings from Self-Gravity Wake Observations. *Icarus*, **279**, 36-50.
- Nicholson, P. and Esposito, L.W. 2016. Introduction: Special issue on planetary rings. *Icarus*, **279**, 1.
- Rehnberg, M., Esposito, L., Brown, Z., Albers, A., Sremcevic, M. A. 2016. A traveling Feature in Saturn's Rings. *Icarus*, **279**, 100-108.
- Hansen, C. J., L. W. Esposito, K.-M. Aye, J. E. Colwell, A. R. Hendrix, G. Portyankina, D. Shemansky. 2017. Investigation of Diurnal Variability of Water Vapor in Enceladus' Plume by the Cassini Ultraviolet Imaging Spectrograph. *GRL*, **44**, 2, 672-677.
- Royer, E.M., Ajello J.M., Holsclaw, G.M., West, R.A., Esposito, L.W., and Bradley, E.T. 2017. Cassini UVIS observations of Titan ultraviolet airglow intensity dependence with solar zenith angle. *GRL*, **44**, 1, 88-96.
- Colwell, J.E., Esposito, L.W., Cooney, J.H. 2017. Particle sizes in Saturn's rings from UVIS stellar occultations 1. Variations with ring region. *Icarus*, **300**, 150-166.
- Rehnberg, M.E., Brown, Z.L., Esposito, L.W., Albers, N. 2017. Direct detection of gaps in Saturn's A ring. *Icarus*, **297**, 110-118.
- Vandaele, A.C., O. Korablev, D. Belyaev, S. Chamberlain, D. Evdokimova, Th. Encrenaz, L.W. Esposito, K.L. Jessup, F. Lefere, S. Limaye, A. Mahieux, E. Marcq, F.P. Mills, F. Montmessin, C.D. Parkinson, S. Robert, T. Roman, B. Sandor, A. Stolzenbach, C. Wilson, V. Wilquet. 2017. Sulfur dioxide in the Venus atmosphere: I. Vertical distribution and variability. *Icarus*, **295**, 16-33.
- Vandaele, A.C., O. Korablev, D. Belyaev, S. Chamberlain, D. Evdokimova, Th. Encrenaz, L.W. Esposito, K.L. Jessup, F. Lefere, S. Limaye, A. Mahieux, E. Marcq, F.P. Mills, F. Montmessin, C.D. Parkinson, S. Robert, T. Roman, B. Sandor, A. Stolzenbach, C. Wilson, V. Wilquet. 2017. Sulfur dioxide in the Venus atmosphere: II. Spatial and temporal variability. *Icarus*, **295**, 1-15.
- Becker, T. M., J. E. Colwell, L. W. Esposito, N. O. Attree, and C. D. Murray. 2018. Cassini UVIS Solar Occultations by Saturn's F Ring and the Detection of Collision-Produced Micron-Sized Dust. *Icarus*, 306, 171-199. <https://doi.org/10.1016/j.icarus.2018.02.006>.
- Buratti, B. J., C. J. Hansen, A. R. Hendrix, L. W. Esposito, J. A. Mosher, R. H. Brown, R. N. Clark, K. H. Baines, P. D. Nicholson. 2018. The Search for Activity on Dione and Tethys with Cassini VIMS and UVIS. *GRL*, 45, 12, 5860-5866.
- Esposito, L.W. and de Stefano, M. 2018. Space age studies of planetary rings. A chapter in Planetary Ring Systems, Cambridge Press, London, (Eds. Tiscareno and Murray), pp 3-29.
- Royer, E.M.; Esposito, L.W.; Crary, F. and Wahlund J.-E. 2018. Enhanced Airglow Signature observed at Titan in Response to its Fluctuating Magnetospheric Environment. *GRL*, 45, 17, 8864-8870.
- Hansen, C., L. W. Esposito, A. Hendrix. 2019. Ultraviolet observation of Enceladus' plume in transit across Saturn, compared to Europa. *Icarus*. **330**, April 2019. [10.1016/j.icarus.2019.04.031](https://doi.org/10.1016/j.icarus.2019.04.031)
- Pryor, W. R., L. W. Esposito, A. Jouchoux, R. A. West, D. Grodent, J.-C. Gérard, A. Radioti, L. Lamy, T.Koskinen. 2019. Cassini UVIS Detection of Saturn's North Polar Hexagon in the Grand Finale. *JGR (Planets)* **124**, 1979-1988

- Hansen, C., L.W. Esposito, A. Hendrix, G. Portyankina, I. Stewart, J. Colwell, R. West. 2019. The Composition and Structure of Enceladus' Plume from the complete set of Cassini UVIS Occultation Observations. *Icarus*, **344**, 1 July 2020, 113461
- Jerousek, R., E. Marouf, J. Colwell, L.W. Esposito, M. Hedman, P. Nicholson, R. French. 2020. Saturn's C Ring and Cassini Division: Particle Sizes from Cassini UVIS, VIMS, and RSS Occultations, *Icarus*, **344**, 1 July 2020, 113565
- Eckert S, Colwell JE, Becker TM, Esposito LW "Sizes of the smallest particles at Saturn's ring edges." *ICARUS* **357**, 15 March 2021, 114224
- Esposito, L.W. Saturn's Rings, Oxford Research Encyclopedia of Planetary Science. <https://doi.org/10.1093/acrefore/9780190647926.013.236>. Published online: 31 August 2021
- Portyankina, G., L.W. Esposito, A. Ali, C. Hansen, K.-M. Aye. 2022. Modeling the complete set of Cassini's UVIS occultation observations of Enceladus' plume. *Icarus* **383**, 114918.
- Pryor WR, Gladstone GR, Retherford KD, Tobiska WK, Holsclaw GM, Esposito LW. 2024. Modeling Cassini UVIS Interplanetary Hydrogen Ly α Observations from 1999 to 2017. *ASTROPHYSICAL JOURNAL*. **960** (2) (January 01, 2024): ARTN 117.
- Sega DD, Stewart G, Colwell JE, Duvvuri GM, Jerousek R, Esposito L. "The dynamics of self-gravity wakes in the Mimas 5:3 bending wave: Modifying the linear theory*." *ICARUS*. **413** (May 01, 2024): ARTN 115987.
- Pryor WR, Magalhaes FP, Lamy L, Prange R, Esposito LW, Gustin J, Rymer AM, Sulaiman AH. "Cassini UVIS Observations of the Enceladus Auroral Footprint on Saturn in 2017." *PLANETARY SCIENCE JOURNAL*. **5** (1) (January 01, 2024): ARTN 20.
- Green MR, Colwell JE, Esposito LW, Jerousek RG. "Particle sizes in Saturn's rings from UVIS stellar occultations 2. Outlier Populations in the C ring and Cassini Division." *ICARUS*. **416** (July 01, 2024): ARTN 116081.
- Jerousek RG, Colwell JE, Esposito LW, Tiscareno MS, Lewis MC, Pohl L, Benavides DA. "The smallest structures in Saturn's rings from UVIS stellar occultations." *ICARUS*. **415** (June 2024): ARTN 116069
- Esposito, L.W., Joshua E. Colwell, Stephanie Eckert, Melody R. Green, Richard G. Jerousek, Sreenivas Madhusudhanan Statistics of Saturn's ring occultations: Implications for structure, dynamics, and origins *Icarus* **429**. 15 March 2025, 116386