# Nancy Chanover

*Curriculum Vitae*

*Box 30001/MSC 4500*
*New Mexico State University*
*Las Cruces, NM 88003-0001 USA*
*575.915.2041*
*575.646.2567*
*575.646.1602*
*nchanove@nmsu.edu*
*http://astronomy.nmsu.edu/directory/faculty/name/nancy-chanover/*

## Education

2008 **Master of Arts (M.A.) in Education**, *New Mexico State University*, Las Cruces, NM.
Coursework Masters

1991–1997 **Doctor of Philosophy (Ph.D.) in Astronomy**, *New Mexico State University*, Las Cruces, NM.
Dissertation: Temporal Variations in the Vertical Structure of Jupiter's Atmosphere
Advisor: Dr. Reta Beebe

1987-1991 **Bachelor of Arts (B.A.) in Physics, Minor in Astronomy**, *Wellesley College*, Wellesley, MA.
Advisors: Drs. Glenn Stark (Physics) and Richard French (Astronomy)

## Employment

2017-present **Professor of Astronomy**, *New Mexico State University*, Las Cruces, NM.

2011-2017 **Associate Professor of Astronomy**, *New Mexico State University*, Las Cruces, NM.

2008-2011 **Assistant Professor of Astronomy**, *New Mexico State University*, Las Cruces, NM.

1998-2008 **College Assistant Professor of Astronomy**, *New Mexico State University*, Las Cruces, NM.

2002-2003 **Tombaugh Scholar**, *New Mexico State University*, Las Cruces, NM.

2000-2001 **Tombaugh Scholar**, *New Mexico State University*, Las Cruces, NM.

1997-1998 **NRC Postdoctoral Research Associate**, *Goddard Space Flight Center*, Greenbelt, MD.
Postdoctoral Advisor: Dr. John Hillman
Research Topics: planetary atmospheres, planetary science instrumentation, acousto-optic tunable filters

## Research Interests

My current scholarly activities include:

- visible and near infrared imaging and spectroscopy of giant planet atmospheres in an effort to understand their atmospheric structure, dynamics, and chemistry, and the temporal variability thereof
- instrument development for planetary science and astrobiology applications (i.e. for landed, balloon-borne and small satellite platforms, and for ground-based telescopes)
- characterization of ice in the Moon's south polar region
- data archiving and data fusion

I have developed strong interdisciplinary collaborations with researchers in departments of electrical and computer engineering, mechanical engineering, geology, Earth science, biology, and astrobiology, both within the NMSU system as well as nationwide.

## Service

### Professional Service and Appointments, 2016-2021

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|---|---|
| 2020-2021 | NASA [redacted] review panel, member |
| 2020-present | [redacted] observatory time allocation committee, member |
| 2019-present | NSF/NASA/DoE Astronomy and Astrophysics Advisory Committee, member |
| 2019 | Search Committee for Director of National Center for Optical-Infrared Astronomy, member |
| 2019 | NASA [redacted] Program review panel, Chair |
| 2019 | NASA [redacted] Program review panel, member |
| 2018-present | U.S. Extremely Large Telescope Program Advisory Committee, member |
| 2017-present | Director of the ARC 3.5m telescope at Apache Point Observatory |
| 2016-2018 | American Astronomical Society Division for the Planetary Sciences Subcommittee on Professional Culture and Climate (Co-Chair 2016-2017) |
| 2016-2017 | Committee On INclusiveness in the SDSS, member (and REU Working Group Chair) |
| 2016 | Science Instrument Definition Team for NASA's Gondola for High Altitude Planetary Science, Chair |
| 2015-2018 | American Astronomical Society Council $\rightarrow$ Board of Trustees, member |
| 2015-present | NASA's Planetary Data System Atmospheres Discipline Node, PI |

### University and Department Service, 2016-2021

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| 2020 | College of Arts and Sciences Online Teaching Task Force, member |
| 2018-present | Faculty Fellow, NMSU Residential Life Program |
| 2017-2019 | College of Arts and Sciences Faculty Affairs Committee, member |
| 2008-2020 | member of faculty search committees for Physics (2012), Mechanical and Aerospace Engineering (2009-2010), and Astronomy (2008, 2010, 2015, 2019, 2020) |
| 2015-present | Tombaugh Committee, Chair |
| 2011-present | Astronomy Promotion and Tenure Committee, member |
| 2008-present | Astronomy Graduate Admissions Committee, member (Chair: 2010-2015) |
| 2013-present | Astronomy Undergraduate Committee, member (Chair: 2015-present) |
| 2011-present | Astronomy Graduate Curriculum Committee, member |
| 2000-present | Astronomy Observatories Committee, member |
| 2009-present | Astronomy First Year Graduate Student Advisor |
| 2005-2011 | Murrell Award Committee, Chair |
| 2006-present | hosted at least one Astronomy colloquium speaker per year |
| 2004-present | coordinated biweekly Planetary Group meetings |

## Teaching and Mentoring

Courses Taught

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|---|---|
| ASTR 105G | *The Planets* (a General Education class) |
| ASTR 105G | *The Planets: Climate Change Across the Solar System* (a pilot First Year Seminar class) |
| ASTR 110G | *Introduction to Astronomy* (a General Education class), both face-to-face and online |

ASTR 305V *Life in the Universe* (a Viewing the Wider World, General Education class)

ASTR 400 *Undergraduate Research Topics*

ASTR 401 *Topics in Modern Astrophysics* (a calculus-based astrophysics course for advanced undergraduates)

ASTR 402 *Introduction to Astronomical Observations and Techniques* (a calculus-based observational astronomy course for advanced undergraduates)

ASTR 500 *Seminar* (a 1-credit, graduate level course)

ASTR 598 *Special Research Programs* (a directed study course)

ASTR 600 *Predissertation Research*

ASTR 620 *Planetary Processes*

ASTR 700 *Doctoral Dissertation*

Ph.D. Students Graduated

- Alexander Thelen (2018), Postdoctoral researcher, Goddard Space Flight Center
- Kyle Uckert (2016), Research Scientist, Jet Propulsion Laboratory
- Candace Gray (2015), Support Astronomer, Apache Point Observatory
- Adam McKay (2013), Research Scientist, Goddard Space Flight Center
- Charles Miller (2013), Project Engineer, Spaceport America
- Michael Sussman (2011), Data Analyst, Apple
- Paul Strycker (2011), Associate Professor, Concordia University Wisconsin
- Randall Carlson (2011), Air Force Office of Scientific Research
- James Norwood (2010), community college instructor
- Carrie Anderson (2006), Senior Researcher, NASA Goddard Space Flight Center
- Takafumi Temma (2005), working in industry, Japan

Current Graduate Students (Primary Advisor)

- Emma Dahl, anticipated Ph.D. 2021
- Kristen Luchsinger, anticipated Ph.D. 2022
- David DeColibus, anticipated Ph.D. 2022
- Ali Hyder, anticipated Ph.D. 2023
- Matthew Varakian, anticipated Ph.D. 2023

- Hannah Gallamore, anticipated Ph.D. 2025

Formal and Informal Mentoring of Undergraduate Students

- Emily Medeles (2019-2020), NMSU Physics undergraduate
- Kayla DeVogel (2015-2016), NMSU Physics B.S., 2016
- Joni Clark (2012-2016), NMSU Physics B.A., 2016
- Amber Medina (2011-2015), NMSU Physics B.S. (2016), enrolled in Harvard Astronomy graduate program
- Shannon Rees (2010-2016), NMSU Geology B.S., enrolled in Northern Arizona U. Geology graduate program
- Maria Spies (2010), NMSU Physics B.S.
- Daniel Robison (2009), NMSU Physics student
- Stephen Bussard (2007-2010), NMSU Physics B.S.
- Tristan Likes (2005-2006), NMSU Geology B.S., pursuing Mechanical Engineering M.S.
- Yvonne Torres (2002-2004), NMSU Physics B.S., employed at University of Arizona Imaging Technology Lab
- Daniel Lofton (2000-2002), NMSU Geography B.S., employed at Harris Corporation
- Elizabeth Simrell (2000-2001), NMSU Physics B.S., employed at Kirtland AFB

In addition to the students listed above, I have served on 3 Astronomy Masters Committee, 14 Astronomy Ph.D. committees, 27 Electrical Engineering Masters Committees, one Geology Masters Committee, and 6 Electrical Engineering Ph.D. Committees. I have also served as the Faculty Advisor for the Society of Astronomy Students, an undergraduate student organization, since its inception in 2012.

## Awards and Publicity

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| April 2021 | College of Arts and Sciences Outstanding Faculty Achievement in Teaching Award |
| Mar 2020 | NMSU press release about Jupiter studies using NASA grant |
| July 2019 | NASA Climbing Robot Scales Cliffs and Looks for Life, YouTube video |
| June 2016 | *Air and Space* magazine article related to autonomous robot probes for Martian caves |
| July 2015 | NMSU press release related to Europa CubeSat concept study |
| Sep. 2015 | television interview about NMSU's *Salon Discovery* event |
| June 2014 | NMSU press release related to cave studies |
| Nov. 2012 | NMSU press release related to cave studies |
| April 2010 | NMSU Teaching Academy Innovation Award |
| 2009-2010 | 3 NMSU press releases related to observations of the LCROSS impact |
| Oct. 2009 | television interviews about LCROSS observations on KRWG-TV, KVIA, and KRQE |
| 2008, 2009 | research featured in *NMSU Research News* publication |

## Professional Memberships

- American Astronomical Society/Division for Planetary Sciences, Laboratory Astrophysics Division
- American Geophysical Union
- Astronomical Society of the Pacific
- American Association of Variable Star Observers
- Association for Women in Science
- Sigma Xi

## Refereed Publications

### Peer Reviewed Publications [* denotes a student- or postdoc-led paper]

1 Kristen M. Luchsinger*, Nancy J. Chanover, and Paul D. Strycker. Water within a permanently shadowed lunar crater: Further LCROSS modeling and analysis. *Icarus*, 354:114089, January 2021.

2 Emma K. Dahl*, Nancy J. Chanover, Glenn S. Orton, Kevin H. Baines, James A. Sinclair, David G. Voelz, Erandi A. Wijerathna, Paul D. Strycker, and Patrick G. J. Irwin. Vertical Structure and Color of Jovian Latitudinal Cloud Bands during the Juno Era. *The Planetary Science Journal*, 2(1):16, February 2021.

3 Erandi Wijerathna*, Emma Dahl, David Voelz, and Nancy Chanover. Correcting etaloning fringes in hyperspectral image cubes of Jupiter using sensor thickness modeling with flat-field data fitting. *Journal of Astronomical Telescopes, Instruments, and Systems*, 6:028002, April 2020.

4 Kyle Uckert*, Aaron Parness, Nancy Chanover, Evan J. Eshelman, Neil Abcouwer, Jeremy Nash, Renaud Detry, Christine Fuller, David Voelz, Robert Hull, David Flannery, Rohit Bhartia, Kenneth S.

Manatt, William J. Abbey, and Penelope Boston. Investigating Habitability with an Integrated Rock-Climbing Robot and Astrobiology Instrument Suite. *Astrobiology*, 20(12):1427–1449, December 2020.

5 Jodi R. Berdis*, Murthy S. Gudipati, James R. Murphy, and Nancy J. Chanover. Europa's surface water ice crystallinity: Discrepancy between observations and thermophysical and particle flux modeling. *Icarus*, 341:113660, May 2020.

6 Alexander E. Thelen*, C. A. Nixon, N. J. Chanover, M. A. Cordiner, E. M. Molter, N. A. Teanby, P. G. J. Irwin, J. Serigano, and S. B. Charnley. Abundance measurements of Titan's stratospheric HCN, $HC_3N$, $C_3H_4$, and $CH_3CN$ from ALMA observations. *Icarus*, 319:417–432, February 2019.

7 C. Pelzman*, N. Chanover, D. Voelz, and S. Y. Cho. Plasmonic device for spectral analysis. *Electronics Letters*, 55(3):142–144, February 2019.

8 Alexander E. Thelen*, C. A. Nixon, N. J. Chanover, E. M. Molter, M. A. Cordiner, R. K. Achterberg, J. Serigano, P. G. J. Irwin, N. Teanby, and S. B. Charnley. Spatial variations in Titan's atmospheric temperature: ALMA and Cassini comparisons from 2012 to 2015. *Icarus*, 307:380–390, June 2018.

9 Kyle Uckert*, Nancy J. Chanover, Stephanie Getty, David G. Voelz, William B. Brinckerhoff, Nancy McMillan, Xifeng Xiao, Penelope J. Boston, Xiang Li, Amy McAdam, David A. Glenar, and Arriana Chavez. The Characterization of Biosignatures in Caves Using an Instrument Suite. *Astrobiology*, 17(12):1203–1218, December 2017.

10 Alexander E. Thelen*, Nancy Chanover, James Murphy, Kyle Rankin, and Steve Stochaj. A Europa CubeSat Concept Study for Measuring Atmospheric Density and Heavy Ion Flux. *Journal of Small Satellites*, 6(2):591–607, August 2017.

11 Michael R. Blanton and 362 co authors. Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe. *Astron. J.*, 154(1):28, July 2017.

12 J. Norwood*, J. Moses, L. N. Fletcher, G. Orton, P. G. J. Irwin, S. Atreya, K. Rages, T. Cavalié, A. Sánchez-Lavega, R. Hueso, and N. Chanover. Giant Planet Observations with the James Webb Space Telescope. *Publ. Astron. Soc. Pac.*, 128(1):018005, January 2016.

13 J. Norwood*, H. Hammel, S. Milam, J. Stansberry, J. Lunine, N. Chanover, D. Hines, G. Sonneborn, M. Tiscareno, M. Brown, and P. Ferruit. Solar System Observations with the James Webb Space Telescope. *Publ. Astron. Soc. Pac.*, 128(2):025004, February 2016.

14 M. J. Loeffler, R. L. Hudson, N. J. Chanover, and A. A. Simon. The spectrum of Jupiter's Great Red Spot: The case for ammonium hydrosulfide ($NH_4SH$). *Icarus*, 271:265–268, June 2016.

15 A. J. McKay*, A. L. Cochran, M. A. DiSanti, G. Villanueva, N. D. Russo, R. J. Vervack, J. P. Morgenthaler, W. M. Harris, and N. J. Chanover. Evolution of $H_2O$, CO, and $CO_2$ production in Comet C/2009 P1 Garradd during the 2011-2012 apparition. *Icarus*, 250:504–515, April 2015.

16 M. J. Loeffler, R. L. Hudson, N. J. Chanover, and A. A. Simon. Giant-planet chemistry: Ammonium hydrosulfide ($NH_4SH$), its IR spectra and thermal and radiolytic stabilities. *Icarus*, 258:181–191, September 2015.

17 K. Uckert*, N. J. Chanover, C. B. Olkin, L. A. Young, H. B. Hammel, C. Miller, and J. M. Bauer. An investigation of the temperature variations in Neptunes upper stratosphere including a July 2008 stellar occultation event. *Icarus*, 232:22–33, April 2014.

18 A. J. McKay*, N. J. Chanover, M. A. DiSanti, J. P. Morgenthaler, A. L. Cochran, W. M. Harris, and N. D. Russo. Rotational variation of daughter species production rates in Comet 103P/Hartley: Implications for the progeny of daughter species and the degree of chemical heterogeneity. *Icarus*, 231:193–205, March 2014.

19 C. L. Gray*, N. J. Chanover, T. G. Slanger, and K. Molaverdikhani. The effect of solar flares, coronal mass ejections, and solar wind streams on Venus 5577 Å oxygen green line. *Icarus*, 233:342–347, May 2014.

20 N. J. Chanover, D. G. Voelz, D. A. Glenar, and E. F. Young. AOTF-Based Spectral Imaging for Balloon-Borne Platforms. *Journal of Astronomical Instrumentation*, 3:1440005, 2014.

21 S. D. Benecchi, K. S. Noll, A. Thirouin, E. Ryan, W. M. Grundy, A. Verbiscer, A. Doressoundiram, D. Hestroffer, R. Beaton, D. Rabinowitz, and N. Chanover. The UT 7/8 February 2013 Sila-Nunam mutual event future predictions. *Icarus*, 229:423–427, February 2014.

22 R. Tawalbeh*, D. Voelz, D. Glenar, X. Xiao, N. Chanover, R. Hull, and D. Kuehn. Infrared acousto-optic tunable filter point spectrometer for detection of organics on mineral surfaces. *Optical Engineering*, 52(6):063604, June 2013.

23 P. D. Strycker*, N. J. Chanover, C. Miller, R. T. Hamilton, B. Hermalyn, R. M. Suggs, and M. Sussman. Characterization of the LCROSS impact plume from a ground-based imaging detection. *Nature Communications*, 4:2620, October 2013.

24 A. Sánchez-Lavega, J. Legarreta, E. García-Melendo, R. Hueso, S. Pérez-Hoyos, J. M. Gómez-Forrellad, L. N. Fletcher, G. S. Orton, A. Simon-Miller, N. Chanover, P. Irwin, P. Tanga, and M. Cecconi. Colors of Jupiter's large anticyclones and the interaction of a Tropical Red Oval with the Great Red Spot in 2008. *Journal of Geophysical Research (Planets)*, 118:2537–2557, December 2013.

25 A. J. McKay*, N. J. Chanover, J. P. Morgenthaler, A. L. Cochran, W. M. Harris, and N. D. Russo. Observations of the forbidden oxygen lines in DIXI target Comet 103P/Hartley. *Icarus*, 222:684–690, February 2013.

26 T. G. Slanger, N. J. Chanover, B. D. Sharpee, and T. A. Bida. $O/O_2$ emissions in the Venus nightglow. *Icarus*, 217:845–848, February 2012.

27 A. J. McKay*, N. J. Chanover, J. P. Morgenthaler, A. L. Cochran, W. M. Harris, and N. D. Russo. Forbidden oxygen lines in Comets C/2006 W3 Christensen and C/2007 Q3 Siding Spring at large heliocentric distance: Implications for the sublimation of volatile ices. *Icarus*, 220:277–285, July 2012.

28 J. L. Heldmann, A. Colaprete, D. H. Wooden, R. F. Ackermann, D. D. Acton, P. R. Backus, V. Bailey, J. G. Ball, W. C. Barott, S. K. Blair, M. W. Buie, S. Callahan, N. J. Chanover, Y.-J. Choi, A. Conrad, D. M. Coulson, K. B. Crawford, R. DeHart, I. de Pater, M. Disanti, J. R. Forster, R. Furusho, T. Fuse, T. Geballe, J. D. Gibson, D. Goldstein, S. A. Gregory, D. J. Gutierrez, R. T. Hamilton, T. Hamura, D. E. Harker, G. R. Harp, J. Haruyama, M. Hastie, Y. Hayano, P. Hinz, P. K. Hong, S. P. James, T. Kadono, H. Kawakita, M. S. Kelley, D. L. Kim, K. Kurosawa, D.-H. Lee, M. Long, P. G. Lucey, K. Marach, A. C. Matulonis, R. M. McDermid, R. McMillan, C. Miller, H.-K. Moon, R. Nakamura, H. Noda, N. Okamura, L. Ong, D. Porter, J. J. Puschell, J. T. Rayner, J. J. Rembold, K. C. Roth, R. J. Rudy, R. W. Russell, E. V. Ryan, W. H. Ryan, T. Sekiguchi, Y. Sekine, M. A. Skinner, M. Sôma, A. W. Stephens, A. Storrs, R. M. Suggs, S. Sugita, E.-C. Sung, N. Takatoh, J. C. Tarter, S. M. Taylor, H. Terada, C. J. Trujillo, V. Vaitheeswaran, F. Vilas, B. D. Walls, J.-i.

Watanabe, W. J. Welch, C. E. Woodward, H.-S. Yim, and E. F. Young. LCROSS (Lunar Crater Observation and Sensing Satellite) Observation Campaign: Strategies, Implementation, and Lessons Learned. *Space Sci. Rev.*, 167:93–140, May 2012.

29 P. D. Strycker*, N. J. Chanover, A. A. Simon-Miller, D. Banfield, and P. J. Gierasch. Jovian chromophore characteristics from multispectral HST images. *Icarus*, 215:552–583, October 2011.

30 C. Miller*, A. J. Verbiscer, N. J. Chanover, J. A. Holtzman, and P. Helfenstein. Comparing Phoebe's 2005 opposition surge in four visible light filters. *Icarus*, 212:819–834, April 2011.

31 N. J. Chanover, C. Miller, R. T. Hamilton, R. M. Suggs, and R. McMillan. Results from the NMSU-NASA Marshall Space Flight Center LCROSS observational campaign. *Journal of Geophysical Research (Planets)*, 116:E08003, August 2011.

32 M. G. Sussman*, N. J. Chanover, A. A. Simon-Miller, A. R. Vasavada, and R. F. Beebe. Analysis of Jupiters Oval BA: A streamlined approach. *Icarus*, 210:202–210, November 2010.

33 J. W. Norwood* and N. J. Chanover. Spatial and short-term temporal variations in Uranus near-infrared spectrum. *Icarus*, 203:331–335, September 2009.

34 C. Miller* and N. J. Chanover. Resolving dynamic parameters of the August 2007 Titania and Ariel occultations by Umbriel. *Icarus*, 200:343–346, March 2009.

35 B. Marty, T. Guillot, A. Coustenis, N. Achilleos, Y. Alibert, S. Asmar, D. Atkinson, S. Atreya, G. Babasides, K. Baines, T. Balint, D. Banfield, S. Barber, B. Bézard, G. L. Bjoraker, M. Blanc, S. Bolton, N. Chanover, S. Charnoz, E. Chassefière, J. E. Colwell, E. Deangelis, M. Dougherty, P. Drossart, F. M. Flasar, T. Fouchet, R. Frampton, I. Franchi, D. Gautier, L. Gurvits, R. Hueso, B. Kazeminejad, T. Krimigis, A. Jambon, G. Jones, Y. Langevin, M. Leese, E. Lellouch, J. Lunine, A. Milillo, P. Mahaffy, B. Mauk, A. Morse, M. Moreira, X. Moussas, C. Murray, I. Mueller-Wodarg, T. C. Owen, S. Pogrebenko, R. Prangé, P. Read, A. Sanchez-Lavega, P. Sarda, D. Stam, G. Tinetti, P. Zarka, and J. Zarnecki. Kronos: exploring the depths of Saturn with probes and remote sensing through an international mission. *Experimental Astronomy*, 23:947–976, March 2009.

36 B. Marty, T. Guillot, A. Coustenis, N. Achilleos, Y. Alibert, S. Asmar, D. Atkinson, S. Atreya, G. Babasides, K. Baines, T. Balint, D. Banfield, S. Barber, B. Bézard, G. L. Bjoraker, M. Blanc, S. Bolton, N. Chanover, S. Charnoz, E. Chassefière, J. E. Colwell, E. Deangelis, M. Dougherty, P. Drossart, F. M. Flasar, T. Fouchet, R. Frampton, I. Franchi, D. Gautier, L. Gurvits, R. Hueso, B. Kazeminejad, T. Krimigis, A. Jambon, G. Jones, Y. Langevin, M. Leese, E. Lellouch, J. Lunine, A. Milillo, P. Mahaffy, B. Mauk, A. Morse, M. Moreira, X. Moussas, C. Murray, I. Mueller-Wodarg, T. C. Owen, S. Pogrebenko, R. Prangé, P. Read, A. Sanchez-Lavega, P. Sarda, D. Stam, G. Tinetti, P. Zarka, J. Zarnecki, J. Schmidt, and H. Salo. Erratum: Kronos: exploring the depths of Saturn with probes and remote sensing through an international mission. *Experimental Astronomy*, 23:977–980, March 2009.

37 B. Goldman, M. C. Cushing, M. S. Marley, É. Artigau, K. S. Baliyan, V. J. S. Béjar, J. A. Caballero, N. Chanover, M. Connelley, R. Doyon, T. Forveille, S. Ganesh, C. R. Gelino, H. B. Hammel, J. Holtzman, S. Joshi, U. C. Joshi, S. K. Leggett, M. C. Liu, E. L. Martín, V. Mohan, D. Nadeau, R. Sagar, and D. Stephens. CLOUDS search for variability in brown dwarf atmospheres. Infrared spectroscopic time series of L/T transition brown dwarfs. *Astronomy & Astrophysics*, 487:277–292, August 2008.

38 C. M. Anderson*, E. F. Young, N. J. Chanover, and C. P. McKay. HST spectral imaging of Titan's haze and methane profile between 0.6 and 1 $\mu$m during the 2000 opposition. *Icarus*, 194:721–745, April 2008.

39 T. G. Slanger, D. L. Huestis, P. C. Cosby, N. J. Chanover, and T. A. Bida. The Venus nightglow: Ground-based observations and chemical mechanisms. *Icarus*, 182:1–9, May 2006.

40 A. A. Simon-Miller, N. J. Chanover, G. S. Orton, M. Sussman, I. G. Tsavaris, and E. Karkoschka. Jupiter's White Oval turns red. *Icarus*, 185:558–562, December 2006.

41 M. B. Vincent, N. J. Chanover, R. F. Beebe, and L. Huber. Calibration of the Infrared Telescope Facility National Science Foundation Camera Jupiter Galileo Data Set. *Publ. Astron. Soc. Pac.*, 117:1129–1143, October 2005.

42 T. Temma*, N. J. Chanover, A. A. Simon-Miller, D. A. Glenar, J. J. Hillman, and D. M. Kuehn. Vertical structure modeling of Saturn's equatorial region using high spectral resolution imaging. *Icarus*, 175:464–489, June 2005.

43 M. A. Kahre*, J. R. Murphy, N. J. Chanover, J. L. Africano, L. C. Roberts, and P. W. Kervin. Observing the martian surface albedo pattern: Comparing the AEOS and TES data sets. *Icarus*, 179:55–62, December 2005.

44 C. M. Anderson*, N. J. Chanover, C. P. McKay, P. Rannou, D. A. Glenar, and J. J. Hillman. Titan's haze structure in 1999 from spatially-resolved narrowband imaging surrounding the 0.94 $\mu$m methane window. *Geophysical Research Letters*, 31:L17S06, June 2004.

45 N. J. Chanover, C. M. Anderson, C. P. McKay, P. Rannou, D. A. Glenar, J. J. Hillman, and W. E. Blass. Probing Titan's lower atmosphere with acousto-optic tuning. *Icarus*, 163:150–163, May 2003.

46 D. C. Stephens*, M. S. Marley, K. S. Noll, and N. Chanover. L-Band Photometry of L and T Dwarfs. *Astrophys. J. Lett.*, 556:L97–L101, August 2001.

47 N. J. Chanover, D. A. Glenar, and J. J. Hillman. Multispectral near-IR imaging of Venus nightside cloud features. *J. Geophys. Res.*, 103:31335–31348, December 1998.

48 N. J. Chanover, D. M. Kuehn, and R. F. Beebe. Vertical Structure of Jupiter's Atmosphere at the Galileo Probe Entry Latitude. *Icarus*, 128:294–305, August 1997.

49 N. J. Chanover, D. M. Kuehn, D. Banfield, T. Momary, R. F. Beebe, K. H. Baines, P. D. Nicholson, A. A. Simon, and A. S. Murrell. Absolute Reflectivity Spectra of Jupiter: 0.25–3.5 Micrometers. *Icarus*, 121:351–360, June 1996.

50 S. M. Lederer, M. S. Marley, B. Mosser, J. P. Maillard, N. J. Chanover, and R. F. Beebe. Albedo features and Jovian seismology. *Icarus*, 114:269–277, April 1995.

51 Richard G. French, Philip D. Nicholson, Maren L. Cooke, J. L. Elliot, Keith Matthews, Olga Perkovic, Eric Tollestrup, Paul Harvey, Nancy J. Chanover, Mary Ann Clark, Edward W. Dunham, William Forrest, Joseph Harrington, Judith Pipher, Andre Brahic, Isabelle Grenier, Francoise Roques, and Martina Arndt. A spectral formalism for computing three-dimensional deformations due to surface loads: 2. Present-day glacial isostatic adjustment. *J. Geophys. Res.*, 99(B4):7075–7101, April 1994.

52 R. G. French, P. D. Nicholson, M. L. Cooke, J. L. Elliot, K. Matthews, O. Perkovic, E. Tollestrup, P. Harvey, N. J. Chanover, M. A. Clark, E. W. Dunham, W. Forrest, J. Harrington, J. Pipher, A. Brahic, I. Grenier, F. Roques, and M. Arndt. Geometry of the Saturn system from the 3 July 1989 occultation of 28 SGR and Voyager observations. *Icarus*, 103:163–214, June 1993.

53 Nancy J. Chanover. An Examination of the Period of V1828 Sagittarii. *Journal of the American Association of Variable Star Observers (JAAVSO)*, 18(2):125–128, October 1989.