Nancy Chanover

Curriculum Vitae

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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: Dr. Glenn Stark (Physics) and Richard French (Astronomy)

Employment

2011-present **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

Scholarly Activities

My current research activities include:

- visible and near infrared imaging and spectroscopy of giant planet atmospheres in an effort to understand their atmospheric structure, dynamics, and chemistry, as well as 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, as the Principal Investigator of NASA's Planetary Data System Atmospheres Node

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. I am an author on a total of 40 peer-reviewed publications, 17 of which were published with one of my graduate students or postdocs as the lead author. My h-index according to Google Scholar is 13, and my total number of citations is 594. A complete listing of my publications is located at the end of this document.

Funding

The research I have conducted while at NMSU has been supported through federal grants from NASA and the National Science Foundation through nationally competed grant proposals. Since becoming a tenure track faculty member in 2008, I have been a Principal Investigator on grants totaling nearly $9M (*$6.4M since becoming an Associate Professor*), and served as a Co-Investigator on additional grants for more than $3M. I have fully supported five Astronomy graduate students through my own research grants and helped six additional graduate students obtain external funding through NASA-funded fellowship opportunities. The following list provides information about the grant awards that I received *since being granted tenure in 2011*:

2016-2021 **Planetary Data System Atmospheric Sciences Node**, *PI*, NASA/Planetary Science Division, $4.1M.

2016-2018 **A Fiber-Coupled Plasmonic Spectrometer for In Situ Characterization of Solar System Surfaces**, *PI*, NASA/Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO) Program, $381,000.

2016-2017 **The Chemical History and Evolution of Titan's Atmosphere as Revealed by ALMA**, *PI*, NRAO Student Observing Support Program, $3,000.

2015-2018 **Increasing Underrepresented Minority PhDs in Astronomy with the Sloan Digital Sky Survey**, *Co-I*, Sloan Foundation, $100,000 to NMSU.

2015-2018 **The Chemical History and Evolution of Titan's Atmosphere as Revealed by ALMA**, *Faculty PI*, NASA/Advanced STEM Training and Research (ASTAR) Fellowship, $165,000.

2015-2018 **FreeClimber: Analyzing Steep Terrain and Subsurface Habitability on Mars and Earth**, *Co-I; NMSU PI*, NASA/Planetary Science and Technology Through Analog Research, $263,000 to NMSU.

2015-2017 **A Combined Laboratory and Observational Study of the Great Red Spot's Colors and Chemistry**, *Co-I*, NASA/Planetary Atmospheres Program, $63,000 to NMSU.

2015-2017 **Ice at the Moon's South Pole: Particle Dynamics and Photometric Properties of the LCROSS Debris Plume**, *PI*, NASA/Lunar Data Analysis Program, $271,000.

2013-2017 **Optimizing a Two-Step Laser Time-of-Flight Mass Spectrometer for In Situ Astrobiology Investigations**, *Faculty PI*, NASA/Space Technology Research Fellowship, $247,000.

2012-2017 **A Spectroscopic Study of Giant Planet Chromophores**, *PI*, NASA/Outer Planets Research Program, $179,000.

2014-2016 **Field Testing of Rock Climbing Robot and Microgravity Coring Drill**, *Co-I; NMSU PI*, NASA/Moon and Mars Analog Missions Activities, $18,000 to NMSU.

2014-2015 **A Europa CubeSat Concept Study for Measuring Atmospheric Production and Structure**, *PI*, Jet Propulsion Laboratory, $25,000.

2012-2015 **Upper Atmosphere Chemistry and Nightglow Variability on Venus and its Connection to Solar Flares**, *Faculty PI*, NASA Earth and Space Science Fellowship Program, $90,000.

2012-2015 **Exploring Surface Texture, and Reflectivity of Cave and Related Surface Environments as Harbingers for Life**, *Science PI*, NASA/EPSCoR Minority Serving Institution Faculty Engagement Competition, $250,000.

2011-2014 **Solar System Observations with the James Webb Space Telescope**, *NMSU PI*, Subcontract from Space Science Institute; NASA Astrophysics Division grant to SSI, $144,000.

2011-2014 **Cometary Composition as Inferred From Gas Production**, *Faculty PI*, NASA/Graduate Student Researchers Program, $90,000.

2013-2014 **Search for Life in Extreme Environments: A New Mexico Cave as a Solar System Analog**, *PI*, NMSU Vice President for Research Interdisciplinary Research Grant, $40,000.

The following additional proposals are pending at the time of this writing:

2016-2019 **Jupiter's Cloud Structure, Color Distribution, and Dynamical State During the Juno Era**, *PI*, NASA/Planetary Astronomy Program, $448,000.

2016-2019 **Ground-based Support of Juno: Jupiter Near-Infrared and Visual Imaging and Spectra**, *Co-I*, NASA/Planetary Astronomy Program, $102,000.

2016-2019 **REU Site: Exploring the Cosmos Using Sloan Digital Sky Survey Data**, *PI*, National Science Foundation Astronomy REU Program, $376,000.

Teaching

Courses Taught

Since 2011 I have taught the following classes:

ASTR 105G *The Planets* (a General Education 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 of planetary meteorology)

ASTR 600 *Predissertation Research*

ASTR 620 *Planetary Science I*

ASTR 700 *Doctoral Dissertation*

The ASTR 401 and 402 courses were new courses that I developed in 2011 and 2013, respectively, in response to the desire to expand and enhance our undergraduate Astronomy Minor program. I took over the previously existing ASTR 110G-M70 online class in 2015 and after one semester of using existing materials for this course I developed my own materials in an effort to improve the online education experience of my students.

Students Supervised/Advised

Ph.D. Students Graduated

- Candace Gray (2015), Support Astronomer at Apache Point Observatory
- Adam McKay (2013), Postdoctoral Researcher, University of Texas at Austin
- Charles Miller (2013)
- Michael Sussman (2011), Data Analyst, Groupon
- Paul Strycker (2011), Assistant Professor, Concordia University Wisconsin
- Randall Carlson (2011), Assistant Professor, U.S. Air Force Academy
- James Norwood (2010), community college instructor
- Carrie Anderson (2006), Deputy Lab Chief, NASA's Goddard Space Flight Center
- Takafumi Temma (2005), working in industry, Japan

Current Graduate Students (Primary Advisor)

- Kyle Uckert, anticipated Ph.D. Aug. 2016

- Alexander Thelen, anticipated Ph.D. Aug. 2018
- Emma Dahl, anticipated Ph.D. 2020

Formal and Informal Mentoring of Undergraduate Students

- 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, 24 Electrical Engineering Masters Committees, one Geology Masters Committee, and 3 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.

Service

Professional Service, 2011-2016

2016-present	Science Instrument Definition Team for NASA's Gondola for High Altitude Planetary Science (Chair)
2016-present	American Astronomical Society Division for the Planetary Sciences Subcommittee on Professional Culture and Climate (Co-Chair)
2016-present	Committee On INclusiveness in the SDSS, Member (and REU Working Group Chair)
2015-present	American Astronomical Society Council, Member
2014-present	*Icarus* Editorial Board, Member
2013-2016	American Astronomical Society Laboratory Astrophysics Division, Committee Member
2012-2016	NASA Advisory Council/Science Committee/Planetary Science Subcommittee, Committee Member
2013, 2014	Member of Science Program Committee for Division for Planetary Sciences meetings
2011-2012	Chair of Science Program Committee for 2012 Division for Planetary Sciences meeting, a conference with $\sim$ 1,200 attendees in Reno, NV
ongoing	Reviewer for professional journals, $\sim$ 2 per year
redacted	NASA Review Panel Member for Cassini Data Analysis Program, NASA Astrobiology Institute
redacted	External reviewer for the following NASA Research and Analysis programs: Planetary Astronomy, New Frontiers mission selection, Planetary Mission Data Analysis Program, Outer Planets Research Program, Discovery Data Analysis Program, Planetary Mission Senior Review, Planetary Data Archiving, Restoration, and Tools

University and Department Service, 2011-2016

2014-present	Astrophysical Research Consortium (ARC) Board of Governors, member
2013-present	College of Arts and Sciences Colloquium Committee, member
2012-2015	College of Arts and Sciences Planning and Budget Committee, member
2011-2014	ADVANCE mentor
2008-2015	member of faculty search committees for Physics (2012), Mechanical and Aerospace Engineering (2009-2010), and Astronomy (2008, 2010, 2015)
2015-present	Tombaugh Committee, Chair
2011-2015	Astronomy Promotion and Tenure Committee, member
2008-2015	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

Public Outreach

Since 2011 I conducted the following Public Outreach Events:

July 2016	*The Juno Mission to Jupiter*, public talk in Red Lodge, MT
May 2016	*Pluto and Jupiter: Destinations of the Outer Solar System*, public talk at Astronomy Open House, Las Cruces, NM
May 2016	Skype with two 4^{th} grade classes, Franklin School, Summit, NJ
Feb 2016	*Recent Discoveries in Planetary Science*, talk at Mesilla Valley Rotary Club, Las Cruces, NM
Sep 2015	speaker at Salon Discovery event, Las Cruces, NM
July 2015	*The New Horizons Mission to Pluto*, public talk in Red Lodge, MT
May 2015	Skype with two 4^{th} grade classes, Franklin School, Summit, NJ
Apr 2015	Skype with high school Astronomy Club, Cushing Academy, Ashburnham, MA
Apr 2015	*The New Horizons Mission to Pluto*, public talk at Astronomy Open House, Las Cruces, NM
May 2015	Skype with high school Astronomy Club, Cushing Academy, Ashburnham, MA
April 2014	Skype with two 4^{th} grade classes, Franklin School, Summit, NJ
July 2014	*Our Solar System and Beyond*, public talk in Red Lodge, MT
Mar 2014	*Current Exploration of Our Solar System*, public talk at Astronomy Open House, Las Cruces, NM
Sep 2013	featured speaker at monthly meeting of Astronomical Society of Las Cruces
Apr 2013	speaker at Career Day, Conlee Elementary School, Las Cruces, NM
Mar 2013	*Optical and Near-Infrared Observing*, public talk at Apache Point Observatory Open House event

Jan 2013 featured speaker at monthly meeting of Astronomical Society of Las Cruces

Mar 2012 Skype with two 4^{th} grade classes, Franklin School, Summit, NJ

Awards and Publicity

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

Publications

I have 40 published journal articles in the peer-reviewed literature, including 21 papers on which a student or postdoc whom I was mentoring was the lead author. My h-index according to Google Scholar is 13, and my total number of citations is 594.

Peer Reviewed Publications (all) [* denotes a student- or postdoc-led paper]

1 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.

2 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.

3 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.

4 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.

5 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.

6 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.

7 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.

8 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.

9 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.

10 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.

11 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.

12 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.

13 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.

14 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.

15 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.

16 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.

17 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.

18 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.

19 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.

20 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.

21 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.

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

23 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.

24 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.

25 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.

26 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.

27 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 μm during the 2000 opposition. *Icarus*, 194:721–745, April 2008.

28 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.

29 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.

30 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.

31 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.

32 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.

33 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 μm methane window. *Geophysical Research Letters*, 31:L17S06, June 2004.

34 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.

35 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.

36 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.

37 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.

38 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.

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Invited Talks

1 **Development and Field Testing of Instrumentation for Astrobiology Investigations**, *Physics Department Colloquium*, Boise State University, April 2016.

2 **From Caves to Mountain Tops: Engineering a Pathway for Solar System Exploration**, *Electrical and Computer Engineering Academy Banquet Keynote Speaker*, New Mexico State University, October 2015.

3 **Jovian Weather Mysteries**, *New Mexico Research Exposition Keynote Speaker*, University of New Mexico, Albuquerque, NM, October 2015.

Conference Presentations (2011-present) [* denotes a student- or postdoc-led abstract]

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