Thomas H Zurbuchen
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Education

1996 Ph.D., Physics (with highest honors), University of Bern, Switzerland
1992 M.S. Physics, Mathematics, and Astronomy (with highest honors), University of Bern, Switzerland

Positions Held

2007 – present	Director, Center for Entrepreneurship, College of Engineering, UM
2003 – present	Associate Professor, University of Michigan
2002-2003	Senior Associate Research Scientist, University of Michigan
6-7/2000, 7/2001	Senior research scientist, International Space Science Institute (ISSI), Bern, Switzerland
1998-2002	Assistant Research Scientist, University of Michigan
1996-98	Research Fellow, University of Michigan
1992-94	Consultant in Space Industry, Oerlikon Contraves, Switzerland
1990-92, 1994-96	Research Assistant, University of Bern
1990–92, 1994-96	Teaching Assistant, University of Bern

Awards

2006	NASA Group Achievement Award, Ulysses Mission
2005	UM College of Engineering 2005 Service Excellence Award
2004	National Science and Technology Council (NSTC) Presidential Early Career for Scientists and Engineers (PECASE) Award.
2001	Research Scientist Excellence Award, University of Michigan, College of Engineering
1996-1997	Swiss National Science Foundation, Young Researcher Award

Professional Services

1997-1998	Member, NASA Science and Technology Definition Team for an Interstellar Probe Mission
1998-present	Organizer and Chair, ten special sessions of American Geophysical Union meetings, topics from solar, heliospheric, and planetary physics
1999	Organizer and Chair, IAGA special session, “Energetic Particles in the Heliosphere”
2000	Editor of Book published by the American Institute of Physics
2000-2001	Organizer and Chair, two sessions, National Science Foundation SHINE conference
2000-2002	Member, NASA Operations and Management Working Group for Space Science Technology
2000-2002	Member, National Research Council’s Decadal Review Team for Solar and Heliospheric Physics

March 2000	Chair, International Workshop on CMEs, Elmau, Germany
January 2001	Organizer and Chair, Intl. Conf. of Solar and Extrasolar Composition, Bern, Switzerland
2001	Editor, Journal of Geophysical Research Special Section
2001	Chair of parts of the Heliosphere Conference at Oxnard, CA.
2001-2005	Member, Space Science Working Group of the American Association of Research Universities
2001-present	Member, NASA Operations and Management Working Group for Solar and Heliospheric Physics
2001-2004	Member, National Science Foundation's SHINE Steering Committee, SHINE Web Coordinator
2001-present	Organizer, session at the International Space Congress in 2002 on "Space Commercialization"
2002-present	Member, ESA-NASA Solar Orbiter Instrument Definition Team
2002-present	Member, Living with a Star: Heliospheric working group.
2002-2003	Chair, Organizer NASA ACE-RHESSI-WIND workshop, Taos, NM.
2003-2004	Member, National Research Council's Team on Outer Heliospheric Physics
2003-2005	Lead organizer and chair of Solar Wind 11/SOHO Workshop Conference in Whistler, Canada. This is the largest solar physics conference in history.
2004-present	Member, Solar Probe Science and Technology Definition Team.
2004-present	Member, NASA Science Definition Team for the Solar Sentinels Mission.
2004-2007	Deputy Chair, COSPAR Commission D on Space Plasmas in the Solar System, Including Planetary Magnetospheres
2004-present	Member, National Academy of Sciences Committee on Solar and Space Physics
2005-present	Member, NASA SPD Exploratory Committee
2006-present	Member, Community Coordinated Modeling Center Science Working Group for NASA, NSF, and DoD
May 2007	Chair session at the NSF Small Satellite Workshop for Space Weather and Atmospheric Research, Washington, D.C.
Sep. 2007	Chaired session, Living with a Star: From the Sun Towards the Earth meeting, Boulder, CO.

Over 60 invited talks at international conferences, university seminars and colloquia at many research institutions.
10-15 mss. refereed annually for JGR, GRL, ApJ, J. Plasma Physics, Space Science Rev.
10-15 proposals refereed annually for NASA and NSF
1-2 NASA or NSF review panels per year participated in

Professional Services at the University of Michigan

1999-2002	Member, AOSS-SPRL Operations Committee, Chair: Prof. Drake.
2000	Participation in several activities of the Departmental Review committees as representative of young Research Faculty.
2001-present	Member, UM representative of the Space Science Working Group of the Association of American Universities.
2002-2003	Member, CoE Committee on College-Industrial Relations.

2002-2003	Member, CoE Committee on a Possible Merger of Aerospace Engineering and Space Sciences.
2003	Member, AOSS Chair Search Committee
2003-2004	Member, UM AOSS Committee on Undergraduate / Earth Systems Science
2003-2004	Member, UM AOSS SGUS Program on Space Engineering Working Group
2003-2004	Member, UM CoE Strategic Planning Implementation Communications Committee
2003-present	Member, AOSS Graduate Curriculum Committee
2003-present	Member, CoE Computation Group Advisory Committee
2004-present	UM AOSS Graduate Student Advisor
2004	Member, CoE Technology Transfer Committee
2004-2006	Chair, AOSS Graduate Committee
2004-present	Member, AOSS Curriculum Committee
2006-pesent	Member, UM representative to the Universities Space Research Association
2006-present	UM AOSS MEng/SGUS Advisor for Space Engineering
2006-2007	Chair, CoE Committee on Entrepreneurial Environment and Programs for Students
2006-2007	Member, UM Academic Affairs Advisory Committee
2007	Chair, AOSS Faculty Search Committee

Teaching

Courses Taught

AOSS 590 Space Systems Projects
- 2006 Fall

AOSS 583 Space System Design Management
- 2006 Winter

AOSS 470 Solar-Terrestrial Interactions
- 2005 Fall

AOSS 582 Space Technology
- 2006 Fall
- 2004 Fall; Enrollment: 17
- 2003 Fall; Enrollment: 19
- 2002 Fall; Enrollment: 8

AOSS 605 (now AOSS 470) Solar Terrestrial Relations
- 2004 Winter; Enrollment 15
- 2003 Winter; Enrollment: 19

AOSS 749 Space Science Seminar
- 2004 Winter; Enrollment: 26; average attendance 50
- 2003 Fall; Enrollment: 36; average attendance: 70
- 2003 Winter; Enrollment: 26; average attendance: 70
- 2002 Fall; Enrollment 10-20; average attendance 50
- 2002 Winter; Enrollment 10-20; average attendance 50
- 2001 Fall; Enrollment 10-20; average attendance 30-70
- 2001 Winter; Enrollment 10-20; average attendance 30-70
- 2000 Fall, with A. Nagy; Enrollment 10-20; average attendance 30-70
- 2000 Winter, with T. Gombosi; Enrollment 10-20; average attendance 30-70

1999 Fall, with T. Killeen; Enrollment 10-20; average attendance 30-70

1997-present Lead an active research program involving, at any one time, 10-15 undergraduate students in various roles.

1994-1995 Developed two graduate courses at the University of Bern.

1992-1994 Part-time technical instructor for the Swiss Military.

Ph.D. and M.S. Committees

Ph.D. and M.S. committees, Chaired or Cochaired

- Jason Gilbert, A new composition instrument for heliospheric applications (Ph.D. est. 2008, T. Zurbuchen Chair).
- Pran Mukherjee, MEMS applications for space instrumentation (Ph.D./M.S. est. 2007, T. Zurbuchen Chair).
- Allen Victor, A new instrument to characterize the ion and neutral components of ion propulsion system (Ph.D. est. 2006, T. Zurbuchen Cochair).
- Kelly Korreck, Non-thermal heating of supernova shocks and their comparison to CME-driven shocks (Ph.D. est. 2005, T. Zurbuchen Chair).
- Ben Lynch, Theoretical studies of CMEs (Ph.D. est. 2005, T. Zurbuchen Chair).
- Susan Lepri, Ph.D. 2004, Solar Wind Iron Charge States as Identifiers of Coronal Mass Ejections and the Characterization of a New Low Energy Particle Detector [Chair].
- Alysha Reinhard, Ph.D. 2002, Studies of the Origin and Propagation of Coronal Mass Ejections and the Behavior of the Solar Magnetic Field [Cochair].
- Patrick Leo Koehn, Ph.D. 2002, The Development and Testing of the Fast Imaging Plasma Spectrometer and Its Application in the Plasma Environment of Mercury [Cochair].

Ph.D. and M.S. candidates advised

- Jacob Gruesbeck, 2007
- Dan Gershman, 2007
- Steve Catapano, M.S., 2004, Relating CME in situ data in a solar model, ongoing.
- Angela Richard, M.S., 2004, Isotopic composition anomalies in the solar wind.
- Chungfeng Pei, M.S., 2000, A numerical solar wind model.
- Viacheslav Klenov, M.S., 2000, Pickup ion measurements from Ulysses-SWICS.

Ph.D. and M.S. candidates at other institution

- Elena Moise, Ph.D. 2004, Acceleration of Interstellar Helium in the Inner Heliosphere [Ph.D. K. C. Hsieh, University of Arizona].
- Kanchan Chotoo, Ph.D., 1998, Composition Measurements from WIND-STICS [Ph.D. Chair, George Gloeckler, University of Maryland].

Masters of Engineering Projects directed

- Iain Beveridge, M.E., 2004, A new ion sensor for pickup ion analysis.
- Jerry Overhiser, M.E., 2001, Test-device for FIPS.
- Tomoe Matsuoka, M.E., 2000, CIR accelerated particles in the 100 keV range.

Undergraduate Special Projects Directed

- Laura Emig, 2004, UROP, ongoing. ACE SWICS level-2 data validation.
- Stephen Joe, 2004, UROP, ongoing. A balloon-sat system design.

- Monique Hutcherson, 2004, UROP, ongoing. A balloon-sat system design.
- Matt Pugsley, part-time studies, ongoing. Near real-time web tools for space instrumentation.
- Adrienne Grant, 2004, part-time studies, ongoing. A community assessment of the solar and heliospheric university-based workforce in the U.S.
- Justin Edmondson, 2004, part-time studies, ongoing. Particle simulations for a solar probe mission.
- Trent Polack, 2004, part-time studies. Ulysses real-time health monitoring.
- Ravin Pierre, 2004, REU program. A low-energy electron instrument for laboratory applications.
- Kristina Rodjev, 2003-2004, UROP, GE fellow, part-time studies, ongoing. FIPS calibration and lab work.
- Anna Lawitzke, 2003-2004, UROP, ongoing. Statistical CME analysis.
- Kevin Sylves, 2003-2004, part-time studies. Instrument development for the Magnetosphere Multiscale Mission.
- Ben Stafford, 2004, part-time studies. History of space exploration at UM in support of Planetwalk.
- Rob Sharrow, 2004, part-time studies. Design of new heliosphere instrument, ME lead.
- Catharine Clevenger, 2004, part-time studies. Design of new heliosphere instrument, schedule and management support.
- Iain Beveridge, 2004, part-time studies. Design of new heliosphere instrument, ion optics lead.
- Abigail Lirtzman, 2003-2004, UROP, part-time studies, ongoing. Planetwalk design. Detailed concept of Planetwalk to be developed by the Ann Arbor Hands-On Museum (AAHOM).
- Dustin Doud, 2003-2004, part-time studies, ongoing. Helios WWW plotter, web automatic updates for space instrumentation.
- Sara Gettel, 2003, UROP, Planetwalk design.
- Jessica Brooks, 2003-2004, REU. New instrument design for ion plume analysis. Developed poster and presentation presented at national conference.
- Elizabeth Osmialowski, 2003, REU. Simulations of a TOPAZ. Developed comprehensive simulations of novel plume instrument developed by A. Victor.
- Jessica Hovater, 1998-2003. Automated data-analysis procedures for Ulysses-SWICS. Three-year part-time work as an undergraduate. Is now a graduate student at School of Information. Developed C-programs that are now commonly used and published on the WWW.
- Trevor Torrence, 2002-2003, part-time studies. Real-time data analysis for the ACE SWICS instrument.
- Jacob Gruesbeck, 2002-2004, UROP. Structure and orientation of CMEs during the solar cycle.
- James Olander, 2002-2003, UROP. A Planetwalk in Ann Arbor, a design project to combine arts and science.
- Adam Hilss, 2002, part-time studies. An electronics interface and test device to the FIPS FPGA output.
- Danielle Abrams, 2002-2003, part-time studies. WWW page development for the NSF SHINE program.

- Nancy Jiang, 2001-2002, part-time studies. FIPS parts list and catalogs.
- Darrell Ford, 2002-2003, UROP program, part-time studies. Mechanical design and testing of the FIPS instrument.
- Courtney Sulerud, 2001-2002, UROP student. Solar activity as a function of solar latitude. Co-author of AGU presentation.
- Kris Urie, 2002, part-time studies. FIPS parts list and catalogs.
- Allen Victor, 2002, part-time studies. Development of a novel plasma sensor to characterize the plasma and neutral output of ion propulsion systems.
- Cortney Robinson, 2001-2002, part-time studies. FIPS parts list and catalogs.
- Tobin Neef, 2002, REU program. Pickup ion dynamics in Mercury's space environment. Published as REU report.
- Tara Sharma, 2000-2002, UROP program and part-time studies. Coronal hole signatures on Ulysses and ACE. Published as poster in UROP session, paper to the Journal of Undergraduate Physics.
- Hillary Jenning, 2000-2002, part-time student. WWW page development of the solar and heliospheric research group. WWW page to be published shortly at http://solar-heliospheric.engin.umich.edu/.
- Amy Lundgren, 2001-2002, summer intern and part-time student. Artwork for WWW page to be published shortly at http://solar-heliospheric.engin.umich.edu/.
- Andrea Brown, 2001, UROP student. Parameter study of freeze-in conditions in the solar corona.
- Leah Malone, 2001-2002, UROP student. FIPS plasma measurements at Mercury.
- Sara Barr, 2001-2002, UROP student. FIPS electronics development.
- Dustin Doud, 2001-2002, UROP student. Development of a WWW space weather kiosk.
- Kevin Sylves, 2001-2002, REU student and part-time project. Ion-optical studies of FIPS deflection system. REU report, participation in Mercury conference in Chicago, October 2001.
- Courtney Sims, 2001, summer intern. Composition signatures of CMEs. Finishes with final report.
- Megan Richards, 2001-2002, summer intern. Magnetic field signatures of coronal holes. Finished with final internal UM report.
- Swapna Ghanekar, 2001, Sara Maria Parker Scholar. Case studies of coronal mass ejections with anomalously high freeze-in temperature. Finished with abstract.
- Robert Herrera, 2000, REU student. WWW-based plotting for large amount of CME data. Published as poster.
- Michael Tan, 2000, REU student. Development of multi-layered interactive tools for WWW applications. Published as WWW page and poster.
- Mohamed El Ayouty, 2000, REU student. WWW interface for plotting data. Published as final abstract for REU.
- Sean Flanery, 1999, REU student. Magnetically-driven CME expansion. Results published in poster. Participation in NASA News Item.
- Dennis Robinson, 1999-2000, REU summer student, and part-time student for FIPS project. FIPS time-of-flight telescope simulations. Results published in internal engineering documentation. Also, results in REU paper.
- Satch Masters, 1999, UROP program. Electron scattering on time-of-flight grids. Abstract presentation.

- Kent Jones, 1999, part-time student. Designing laboratory setup device for FIPS. Report as internal engineering document in FIPS.
- Joel Joshua, 1999, UROP student. Corotating interaction regions from ACE. Final UROP poster presentation.
- Jeff Braziunas, 1999, UROP student. O+ upstream ions from WIND. Final UROP abstract.
- David Rainwater, 1998, UROP student. Studies of the slow solar wind. Final UROP abstract.
- Sam Miller, 1998, UROP student and part-time student. WWW-based automatic charge-state calculation, published as WWW page at http://solarheliospheric.engin.umich.edu/ace_status12.html.
- Elisa Equintan, 1998, part-time student. Magnetic field signatures of the Fisk field.
- Michael Aguirre, 1998, UROP student. Fe and O charge states from SWICS. Published as final UROP report.

Grants and Contracts

1. FIPS in Support of the EPS Investigation for the MESSENGER Mission to Mercury, Phase E, CIW/NASA, 2004-2011, $1,250,063, current annual funding $142,091, PI: G. Gloeckler, PD: T. Zurbuchen.
2. Composition studies in the solar atmosphere, DoD/NRL, 2001-2007, $180,715, current annual funding $10,000, PI: T. Zurbuchen.
3. Technology development effort for heliospheric composition instrument, NASA, 2003-2008, $535,034, current annual funding $135,032, PI: T. Zurbuchen.
4. Development of novel MEMS-based technologies for solar physics experiments, NASA HQ, 2004-2007, $72,000, current annual funding $24,000, PI: T. Zurbuchen, GSRP: P. Mukherjee.
5. Solar wind conference and SOHO Workshops, NASA, 2004-2007, $23,840, closing out, PI: T. Zurbuchen.
6. A new approach to systems integration of time-of-flight instruments, NASA, 2004-2007, $256,886, current annual funding $93,069, PI: T. Zurbuchen.
7. Inner heliosphere multispacecraft data analysis tool, UCB/NASA, 2004-2007, $56,424, closing out, PI: T. Zurbuchen.
8. Constraining solar wind and CME models using in situ ionic composition observations, NSF, 2005-2007, $311,621, current annual funding $99,985, PI: T. Zurbuchen, Co-PI: S. Lepri.
9. Ionic charge states of the solar wind and ICMEs: ACE, Ulysses, NASA, 2005-2008, $248,755, current annual funding $90,000, PI: T. Zurbuchen, Co-PI: S. Lepri.
10. Spacecraft optimization: Coupling trajectory, propulsion, and power systems, JPL/NASA, 2005-2008, $72,000, current annual funding $24,000, PI: T. Zurbuchen, GSRP P. Patel.
11. Technical development enabling miniaturized particle sensors, NASA, 2005-2008, $46,800, current annual funding $15,600, PI: T. Zurbuchen, Lab costs for P. Mukherjee.
12. New instruments for exploring the composition and dynamics of pickup ions, NASA HQ, 2005-2008, $72,000, current annual funding $24,000, PI: T. Zurbuchen, GSRP J. Gilbert.
13. Quantitative validation and assessments of solar-heliospheric 3D model codes using empirical data from remote-sensing and in situ measurements, NASA, 2006-2011, $230,000, current annual funding $40,000, PI: T. Zurbuchen.

14. Pickup ion composition spectrometer (PICS) on Mars Atmosphere and Volatile Evolution (MAVEN), NASA, 2007-2007 (hardship), $198,439, current annual funding $198,439, PI: T. Zurbuchen.
15. AOSS/AERO 583 space mission design activities, Google, 2006-2010, $330,000, current annual funding $67,000, PI: T. Zurbuchen.
16. Michigan Aerospace Corp Gift 583 Support, Michigan Aerospace, 2007-2017, $10,000, current annual funding $10,000, PI: T. Zurbuchen.

Invited Talks

1. Zurbuchen, T. H., R. Lundgren, J. W. Keller, R. A. Baragiola, M. Collier, G. T. Delory, G. Gloeckler, R. Hartle, R. E. Johnson, R. Killen, R., and R. P. Lin, Lunar atmosphere and surface analysis through in situ pickup ions, Fall AGU 2007, San Francisco, CA, Dec. 9-14, 2007.
2. Zurbuchen, T., University of Michigan Exploring the Blue Yonder, UM Retirees Association, Ann Arbor, MI, Nov. 8, 2007.
3. Zurbuchen, T., Towards understanding space weather: Where are the weakest links in the chain?, Living With a Star: From the Sun Towards the Earth, Boulder, CO, Sept. 10-13, 2007.
4. Zurbuchen, T., Euler and Space Travel: 300 Years of History in the Making, New Trends in Astrodynamics and Applications Conference, Princeton, NJ, June 27-29, 2007.
5. Zurbuchen, T. H., R. Walker, C. Richey, J. Pavlich, and P. Tchoryk, Space-based direct detection wind mission design, SPIE Defense & Security 2007 Symposium, Orlando, FL, April 9-10, 2007.
6. Zurbuchen, T., University of Michigan Exploring the Blue Yonder, Michigan Difference Seminars, West Palm Beach, FL, Feb. 6-9, 2007.
7. Zurbuchen, T. H., and the Heliospheric TRT Team, Connecting the Sun and the heliosphere, AGU Fall Meeting, abstract #SH21B-01, San Francisco, CA, Dec. 2006. Invited talk.
8. Zurbuchen, T., Coronal effects on FIP fractionation of the solar wind?, Symposium on the Composition of Matter, Grindelwald, Switzerland, Sept. 11-15, 2006.
9. Zurbuchen, T. H., Properties of suprathermal particles in the solar wind, 2005 SHINE Workshop, Kona, Hawaii, 11-15 July 2005.
10. Zurbuchen, T. H., Structure and evolution of the global heliosphere, ISSI Workshop: Solar Dynamics and its Effects on the Heliosphere and Earth, Bern, Switzerland, 18-22 April 2005.
11. Zurbuchen, T. H., P. Prashant, A. Gallimore, D. Scheeres, N. Murphy, G. Zank, R. Malhotra, H. Funsten, and the NASA Interstellar Probe Vision Mission Team, Interstellar Probe: Breakthrough science enabled by nuclear propulsion, in *Proceedings of the 2005 IEEE Aerospace Conference*, IEEE, 2005.
12. Zurbuchen, T. H., First evidence of a filament in the heliosphere, NCAR HAO Colloquium, Boulder, CO, March 2005.
13. Zurbuchen, T. H., Acceleration of heavy ions in CME-driven collisionless shocks, IGPP 4th Annual International Astrophysics Conference, Palm Springs, CA, Feb. 26-March 3, 2005.
14. Zurbuchen, T. H., and L. A. Fisk, Predicting the heliosphere — Can it be done?, Huntsville 2004 Workshop: Challenges to Modeling the Sun-Earth System, Huntsville, AL, Oct. 18-22, 2004.

15. Zurbuchen, T. H., G. Zank, R. Malhotra, H. Funsten, and the Interstellar Probe Vision Mission Team, Interstellar Probe: Breakthrough science enabled by nuclear propulsion, 55th Intl. Astronautical Congress, Vancouver, Canada, Oct. 4-8, 2004.
16. Zurbuchen, T. H., and R. von Steiger, The October/November 2003 events: ACE and Ulysses results, 35th COSPAR Scientific Assembly, Paris, France, July 2004. Invited talk.
17. Zurbuchen, T. H., and S. Lepri, Compositional signatures of ICMEs, SHINE 2004 Conference, Big Sky, MT, June 2004.
18. Zurbuchen, T. H., and W. Manchester, Predictions from UM model for ICMEs at 1 AU, SHINE Conference, Big Sky, MT, June 2004.
19. Zurbuchen, T. H., A. Szabo, R. Skoug, C. Smith, K. Ogilvie, A. Lazarus, and J. Kaspar, Fast, hot and furious: The October/November CMEs observed by ACE and WIND, AGU 2004 Joint Assembly, Montreal, Canada, May 2004.
20. Zurbuchen, T. H., Signatures of coronal mass ejections, ISSI CME Workshop, Bern, Switzerland, March 2004.
21. Zurbuchen, T. H., The structure and sources of the solar wind during the solar cycle: Implications for the heliospheric boundary region, IGPP 3rd Annual International Conference, Riverside, CA, Feb. 2004.
22. Zurbuchen, T. H., and R. von Steiger, Solar wind composition measurements during one entire solar cycle, AGU Fall Meeting, San Francisco, CA Dec. 2003.
23. Zurbuchen, T. H., J. Kozyra, G. Lawrence, J. Burch, M. Henderson, W. Burke, L. Goncharenko, J. Russell, R. Roble, Overview of one aspect of the Sun-Earth connection during the April 2002 events: The “magnetospheric driver” chain, AGU Fall Meeting, San Francisco, CA, Dec. 2002.
24. Zurbuchen, T. H., and L. A. Fisk, Particle acceleration processes in CME- and CIR-driven shocks, Fall AGU, San Francisco, Dec. 2002.
25. Zurbuchen, T. H., P. Koehn, L. A. Fisk, T. Gombosi, The charged particle environment of Mercury, 34th COSPAR Scientific Assembly – The Second World Space Congress, abstract A-01532, Houston, TX, Oct. 2002.
26. Zurbuchen, T. H., Compositional complexity of coronal mass ejections, SHINE, Banff, Canada, Aug. 2002.
27. Zurbuchen, T. H., and R. M. Mewaldt, Heliospheric data from solar wind and CMEs: A tutorial, Storms Workshop, Laurel, MD, Aug. 2002.
28. Zurbuchen, T. H., S. T. Lepri, A. A. Reinard, and R. von Steiger, Anomalous composition and charge state distributions in CMEs, Solar Wind X, Pisa, Italy, June 2002.
29. Zurbuchen, T. H., Models of the magnetic structure of the heliosphere and the corona, Solar Encounter: The First Solar Orbiter Workshop, Tenerife, Spain, May 2001.
30. von Steiger, R., and T. H. Zurbuchen, Solar wind source diversity as revealed by its composition, Spring AGU, Boston, May 2001.
31. Zurbuchen, T. H., Composition of coronal holes, UVCS 2000 Science Meeting, Northeast Harbor, Maine, Sept. 2000.
32. Zurbuchen, T. H., Extrapolation of the low altitude coronal magnetic field into the interplanetary medium, IAU XXIV General Assembly, Manchester, England, Aug. 2000.
33. Zurbuchen, T. H., Solar wind composition measurements from ACE, European Geophysical Society XXV General Assembly, Nice, France, April 2000.
34. Zurbuchen, T. H., The solar wind signatures of coronal mass ejections, International CME Workshop, Elmau, Germany, March 2000.

35. Zurbuchen, T. H., Non-thermal properties of solar wind heavy ions, ACE 2000 Symposium, Indian Wells, CA, Jan. 2000.
36. Zurbuchen, T. H., Solar wind composition and fractionation processes in the corona, Spring AGU, Boston, June 1999.
37. Zurbuchen, T. H., L. A. Fisk, G. Gloeckler, and P. Bochsler, High time-resolution composition data: A new look at the highly structured corona, Fall AGU, San Francisco, Dec. 1998.
38. Zurbuchen, T. H., The new heliospheric magnetic field: Observational implications, Solar Wind 9 Conference, Nantucket, Mass., Oct. 1998.
39. Zurbuchen, T. H., The high-latitude corona, IAGA 1997 Symposium, Uppsala, Sweden, Aug. 1997.

Publications:

Full Articles in Refereed Publications

1. Bodewits, D., D. J. Christian, M. Torney, M. Dryer, C. M. Lisse, K. Dennerl, T. H. Zurbuchen, S. J. Wolk, A. G. G. M. Tielens, and R. Hoekstra, Spectral analysis of the Chandra comet survey, *Astron. Astrophys.*, *469* (3), 1183-1195, 2007.
2. Zurbuchen, T. H., A new view of the coupling of the Sun and the heliosphere, *Annu. Rev. Astron. Astrophys.*, *45* (1), 297-338, 2007.
3. Fang, X., M. Liemohn, A. Nagy, Y. Ma, D. De Zeeuw, J. Kozyra, and T. Zurbuchen, Pickup oxygen ion velocity space and spatial distribution around Mars, *J. Geophys. Res.*, in press, 2007.
4. Lisse, C. M., K. Dennerl, D. J. Christian, S. J. Wolk, D. Bodewits, T. H. Zurbuchen, K. C. Hansen, R. Hoekstra, M. Combi, C. D. Fry, M. Dryer, T. Mäkinen, and W. Sun, Chandra observations of Comet 9P/Tempel 1 during the Deep Impact campaign, *Icarus*, *190* (2), 391-405, 2007.
5. Manchester, W. B., IV, and T. H. Zurbuchen, Reply to comment by P. Riley and J. T. Gosling on "Are high-latitude forward-reverse shock pairs driven by overexpansion?", *J. Geophys. Res.*, *112*, A07103, doi:10.1029/2007JA012272, 2007.
6. Gilbert, J. A., T. H. Zurbuchen, and L. A. Fisk, A new technique for mapping open magnetic flux from the solar surface into the heliosphere, *Astrophys. J.*, *663*, 583-591, 2007.
7. Neugebauer, M., G. Gloeckler, J. T. Gosling, A. Rees, R. Skoug, B. E. Goldstein, T. P. Armstrong, M. R. Combi, T. Maekinen, D. J. McComas, R. von Steiger, T. H. Zurbuchen, E. J. Smith, J. Geiss, and L. J. Lanzerotti, Encounter of the Ulysses spacecraft with the ion tail of Comet McNaught, *Astrophys. J.*, *667* (2), 1262-1266, 2007.
8. Korreck, K. E., T. H. Zurbuchen, S. T. Lepri, and J. M. Raines, Heating of heavy ions by interplanetary coronal mass ejection driven collisionless shocks, *Astrophys. J.*, *659*(1), 773-779, 2007.
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