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http://www.eos.sr.unh.edu/Faculty/CharlesSmith/ (WWW)

Born 18 November 1955, Baltimore, Maryland
Married Sandra Louise MacWilliams, 3 May 1986

Curriculum Vitae Updated: January 25, 2018

Research Interests:

Space Plasma Physics; Interplanetary Magnetic Field; Magnetohydrodynamic Turbulence; Interaction of the Earth, Planets and Planetesimals with the Solar Wind; Cosmic Ray Propagation in the Heliosphere; and the Interpretation of Spacecraft Data.

Education:

Ph.D. in Physics, September 1981, College of William and Mary,
Thesis Title: The Structure of Axisymmetric Turbulence,
Advisor: David C. Montgomery.

M.S. in Physics, January 1979, College of William and Mary.
Awarded Delos Prize for High Score on Qualifying Examination.

B.S. in Physics and Mathematics, May 1977, University of Maryland.
Awarded Membership in Phi Eta Sigma National Honor Society.

Graduated with Honors, May 1973, Mount Saint Joseph's High School,
Baltimore, Maryland.

Professional Societies:

Member of The American Geophysical Union since 1982.

Member of The American Physical Society since 1986.

Member of Sigma Xi Scientific Research Society since 1991.

Employment:

2003-present	Research Professor, Department of Physics and Institute for Earth, Oceans, and Space, University of New Hampshire.
1991-2003	Senior Research Scientist, Bartol Research Institute, University of Delaware.
1987-1991	Research Scientist, Bartol Research Institute, University of Delaware.
1981-1987	Research Scientist, Solar-Terrestrial Theory Group, Department of Physics and Astronomy, University of New Hampshire.
1978-1981	Research Assistant, Department of Physics and Astronomy, College of William and Mary.
1977-1978	Teaching Assistant, Department of Physics and Astronomy, College of William and Mary.

Visiting Positions:

1984 (summer)	Visiting Scientist, Space Science and Technology Division, Los Alamos National Laboratory.
1981 (summer)	Research Associate, Laboratory for Extraterrestrial Physics, Goddard Space Flight Center.

Individual Honors and Awards:

1993	Awarded Editor's Citation for Excellence in Refereeing, *Journal of Geophysical Research – Space Physics.* (Citation in *Eos Transactions, American Geophysical Union*, **75** No. 31, 362–364, 1994.)
1997	Awarded Editor's Citation for Excellence in Refereeing, *Journal of Geophysical Research – Space Physics.* (Citation in *Eos Transactions, American Geophysical Union*, **79** No. 30, 360–362, 1998.)
2007	NASA Group Achievement Award to the Voyager Interstellar Mission Team.
2013	NASA Group Achievement Award to the Van Allen Probes Project Team.

Spacecraft and Mission Involvement:

- ISEE Guest Investigator, 1982-1983.
- Pioneer-Venus Guest Investigator, 1988-1991.
- Collaboration with WIND MFI Team through project support to UD/BRI, December 1994 to 2000.

- Co-Investigator on Voyager MAG instrument team, 1995–2003.
  - Maintain ongoing association through P.I. since March 1987.
- Advanced Composition Explorer (ACE) Instrument Investigator, 1996 to present.
  - Data Manager for the Magnetic Fields Experiment (MAG) since 1991.
  - Responsible for spacecraft magnetics monitoring and correction.
  - MAG liaison for NOAA Real-Time Solar-Wind Space Weather Monitor.
  - NASA Group Achievement Award given to ACE Project Team June 16, 1998.
- Ulysses Guest Investigator, 1997-2004.
- Co-Investigaror on NASA Van Allen Probes EMFISIS Instrument Suite, 2006 to present.
  - Data Manager for the Magnetic Fields Experiment (MAG).

Scientific Panels and Professional Activities:

- Participant in *NASA Solar Terrestrial Physics Working Group* (Coolfont Workshop), 1982.
- Member of Organizing Committee for *Particle Acceleration in Cosmic Plasmas Workshop* (Newark, Delaware), December 4-6, 1991.
- Member of U. of Del. Doctoral Dissertation Committee for W. Troy Stribling, 1991. Dissertation Title: Relaxation Processes in Turbulent Magnetohydrodynamic Decay
- Member of the *NASA Space Physics Cosmic and Heliospheric Data System Coordination Team*, July 1994 to December 1997.
- Member of organizing committee for Journal of Plasma Physics special issues (*J. Plasma Phys.*, **56**(3), December 1996 and **57**(1), February 1997) celebrating David Montgomery's contributions to the field.
- Member of the *Delaware Valley Space Grant Consortium Advisory Board*, November 2001 to June 2003.
- Member of the *Living with a Star Heliospheric Strategy Panel*, November 2002 through 2004.
- Member of Program Committee, *US Planning Workshop for the 2007 International Heliospheric Year* (Subspot, New Mexico), April 2004.
- Working Group leader for SHINE Meeting, June/July 2004.
- Member of NASA Solar Probe Science Definition Team, 2004 to 2008.
- Member of UNH Doctoral Dissertation Committee for Lucas A. Saul, 2005. Dissertation Title: Interstellar Helium Pickup Ion Flux Variations Observed with SOHO/CELIAS

- Appointed membership on NASA Solar & Heliospheric MOWG, July 2005 to 2008.
- Member of UNH Doctoral Dissertation Committee for Kristin D. C. Simunac, 2009. Dissertation Title: Solar Wind Stream Interfaces: The Importance of Time, Longitude, and Latitude Separation Between Points of Observation
- Member of UNH Doctoral Dissertation Committee for Taylor Connor, 2008 to 2012. Dissertation Title: Examining Celestial Polarization with the Gamma-Ray Polarimeter Experiment (GRAPE)
- Member of Solar Heliospheric & Interplanetary Environment (SHINE) Steering Committee, 2009 to 2012.
- Chair of organizing committee for "Joint Meeting of the ACE / SOHO / STEREO / WIND Spacecraft Teams", Kennebunkport, Maine, June 2010.
- Chair of organizing committee for "Meeting on Solar Wind Turbulence", Kennebunkport, Maine, June 2013.

Postdoctoral Scientists Supervised:

- Supervised Postdoctoral Scientist Nikhil S. Padhye, 1998–2000.
- Supervised Postdoctoral Scientist Qiang Hu, 2001–2003.
- Postdoctoral Scientist Zhangbo Guo, spring 2013.

Graduate Students Supervised:

- Supervised graduate student Robert J. Leamon, 1995–1999.
  - Awarded Ph.D. in Physics by The University of Delaware, January 2000.
  - Dissertation Title: Dissipation of Magnetic Fluctuations in the Solar Wind.
  - Supervised his Postdoctoral Scientist appointment, 2000.
- Supervised Graduate Student Researcher Nazim Dugan, summer 2004.
- Supervised Graduate Student Researcher Kathleen Hamilton, summer 2004.
- Supervised Graduate Student Researcher Kristoff W. Paulson, summer 2012 to present.
- Supervised Graduate Student Researcher Anthony Saikin, summer 2013 to present.

Undergraduate Students Supervised:

- Supervised Undergraduate Researcher Zach Schroeder, summer 2000.

- Supervised Undergraduate Researcher Benjamin T. MacBride, 2004–2007.
  - Senior Thesis Title: Turbulence of the Solar Wind
  - M.S. in Physics from UC/Berkeley, fall 2008.
- Supervised Undergraduate Researcher Marissa F. Vogt, summer 2004.
  - M.S. in Physics from UCLA, fall 2010.
  - Ph.D. in Geophysics and Space Physics from University of California, Los Angeles, 2012.
- Supervised Undergraduate Researcher Vasiliy S. Vorotnikov, 2005–2008.
  - Awarded Barry M. Goldwater Fellowship, 2007-09.
  - Ph.D. in Chemical Engineering from University of Delaware, 2014.
- Supervised Undergraduate Researcher David T. Sodaitis, 2006–2008.
  - Senior Thesis Title: Shock Acceleration of the Energetic Particle Background in the Solar Wind
- Supervised Undergraduate Researcher Jeffrey A. Tessein, 2006–2009.
  - Senior Thesis Title: Turbulence Associated with Corotating Interaction Regions
  - Ph.D. in Physics from University of Delaware, 2015.
- Supervised Undergraduate Researcher Natasha Leuchanka, Spring 2008.
- Supervised Undergraduate Researcher Zachary W. Laforet, 2007–2008.
- Supervised Undergraduate Researcher Michael H. Winder, 2007–2010.
- Supervised Undergraduate Researcher Nathan A. Hill from Colby College, summer 2008.
- Supervised Undergraduate Researcher David E. Connick from Colby College, summers 2008, 2010.
- Supervised Undergraduate Researcher Julia E. Stawarz, 2008–2011.
  - Senior Thesis Title: The Turbulent Magnetohydrodynamic Cascade: Applications of Third-Moment Theory to the Solar Wind at 1 AU
  - Ph.D. University of Colorado Boulder, 2016.
- Supervised Undergraduate Researcher Colin J. Joyce, 2009–2011.
  - Senior Thesis Title: Electromagnetic Waves Excited by Newborn Interstellar Pickup Ions: Examination of Voyager Observations from 1 to 4.5 AU
  - Ph.D. University of New Hampshire, 2016.

- Supervised Undergraduate Researcher James A. Tinsley, 2009–2010.
- Supervised Undergraduate Researcher Bradford E. Cannon, 2010–2013.
  - Senior Thesis Title: A Discussion on Interstellar Pickup Ions
- Supervised Undergraduate Researcher Matthew R. Stemkowski, 2010–2012.
- Supervised Undergraduate Researcher Calum J. Meredith from University of Leicester, summers 2010 & 2011.
- Supervised Undergraduate Researcher Jesse T. Coburn, 2011–2016.
  - Senior Thesis Title: The Turbulent Energy Cascade
- Supervised Undergraduate Researcher Gift Ntuli from Colby College, summer 2011.
- Supervised Undergraduate Researcher Luke F. Jablonski, spring 2012.
- Supervised Undergradaute Researcher Poornima Aggarwal from Cooper Union College, summer 2012.
- Supervised Undergraduate Researcher Austin R. Atkins, summer 2012 to 2013.
  - Senior Thesis Title: Assessing the Evolution of the Solar Wind Through the Spectrum of Velocity Fluctuations from 1 - 5 AU
- Supervised Undergradaute Researcher John M. Heavisides, summer 2012.
- Supervised Undergradaute Researcher Leslie J. Lamarche, summers 2012 and 2013.
- Supervised Undergradaute Researcher Steven T. Orlove, summer and fall 2012.
- Supervised Undergraduate Researcher David K. Taylor from R.P.I., summers 2012 and 2013.
- Supervised Undergraduate Researcher Chrystal S. Moser, fall 2012 to fall 2013.
  - Senior Thesis Title: Design and Fabrication of Miniaturized Fluxgate Magnetometer for SIGMA and Other CubeSats
- Supervised Undergraduate Researcher Charles R. Stine, spring and summer 2013.
- Supervised Undergraduate Researcher Molly L. Goelzer, summer 2013 to fall 2014.
- Supervised Undergraduate Researcher Megan L. McLaurin, summer 2013.
- Supervised Undergraduate Researcher Meghan K. Fisher, summer 2014.
- Supervised Undergraduate Researcher Devin W. Thomas, summer 2014, 2015.
- Supervised Undergraduate Researcher Anthony LaRosa, summer 2015.

- Supervised Undergraduate Researcher Anthony Velte, fall 2015 to spring 2016.
- Supervised Undergraduate Researcher Joshua Goodnow, summer 2016 to present.
- Supervised Undergraduate Researcher Tyler Schroeder, fall 2016.

High School Students Supervised:

- Supervised High School High School Student Researcher Sarah Owocki, summer 2001.
- Supervised High School Student Researchers Amanda Angell and Tom Hughes, summer 2002.
- Supervised High School Student Researcher Travis Glines, summer 2004.
- Supervised High School Student Researcher Heather Briggs, summers 2004 & 2005.
- Supervised High School Student Researcher Michael G. Moebius, summers 2004–2006.
- Supervised High School Student Researcher Adrian B. Culver, summers 2006 & 2007.
- Supervised High School Student Researcher Gabriel E. Isman, summers 2006–2008.
- Supervised High School Student Researcher David Isenberg, 2009–2011.
- Supervised High School Student Researcher Megan L. McLaurin, summer 2011.
- Supervised High School Student Researcher Sophia Hollick, January 2016 to August 2017.
- Supervised High School Student Researcher Zackary B. Pine, June 2016 to August 2017.
- Supervised High School Student Researcher Tyler Schroeder, summer 2016.
- Supervised High School Student Researcher Ethan Chapman, fall 2016 to spring 2017.
- Supervised High School Student Researcher Angelina Minocha, spring 2017.

K–12 Outreach Efforts:

- Science Advisor and Contributing Author to *Earth and Sky*, 1992-2003.
  Earth and Sky is a syndicated program dedicated to geophysics, space physics, and astronomy that is broadcast on over 950 commercial and public radio stations nationwide with a listening audience of 4 million people.

- Mentoring Wilmington Charter School (high school) students working on solar wind and space physics problems, 1998-2003.
- Invited Talks Before K–12 Teachers:
  - "The Advanced Composition Explorer," C. W. Smith, Delaware AeroSpace Education Foundation's First Annual Space Science Symposium, University of Delaware, November 1998.
  - "Recent Results From The Advanced Composition Explorer Spacecraft," C. W. Smith, Delaware AeroSpace Education Foundation's Second Annual Space Science Symposium, University of Delaware, October 1999.
  - "Recent Attempts to Understand Large Plasma Structures in Space," C. W. Smith, Delaware AeroSpace Education Foundation's Third Annual Space Science Symposium, University of Delaware, November 2000.
  - "Is There Sound in Space?," C. W. Smith, Delaware AeroSpace Education Foundation's Fourth Annual Space Science Symposium, University of Delaware, November 2001.
  - "Geomagnetic Storms, Solar Activity and the Solar Wind," C. W. Smith, New Hampshire Science Teachers Association Science Education Conference March 23, 2004.
  - "How to Build a Robotic Spacecraft," C. W. Smith, J. Connell, and M. Popecki, New Hampshire Science Teachers Association Science Education Conference, February 22, 2005.
  - "UNH Project SMART Environmental and Space Science Modules," R. N. Rock and C. W. Smith, New Hampshire Science Teachers Association Science Education Conference, October 29, 2007.
  - "Project Auroral Glimpse," C. W. Smith, L. Broad, S. Goelzer, and R. Levergood, New Hampshire Science Teachers Association Spring Meeting 2013.
  - "Introduction to Space Weather," C. W. Smith, New Hampshire Science Teachers Association Science Fall Meeting 2015.
  - "Project SMART High-Altitude Ballooning with High School Students," S. Goelzer, L. Broad, R. Levergood and C. W. Smith, New Hampshire Science Teachers Association Fall Meeting 2015.
- Consulting Scientist for Cosmic and Heliospheric Learning Center "Ask Us" interactive learning feature, 2002-2008.
- Mentor and project leader in UNH Project SMART, 2004-present. Space Science module lead since 2006. Project SMART is a summer research program for high school students interested in careers in science.
  - Lead project "ACE Transit of the Earth's Magnetosphere," summer 2004. Students Heather Briggs and Travis Glines.
  - Lead project "Particle Acceleration at Interplanetary Shocks," summer 2006. Students Adrian Culver and Gabe Isman.
  - Co-Lead project "Crater FTEs" with C. J. Farrugia, summer 2009.
  - Lead project "Study of Waves due to Interstellar Pickup Ions," summer 2010. Students Megan McLaurin and Vasilis Morkotinis.

- Lead project "Interplanetary Turbulence using the Voyager Spacecraft," summer 2011. Students Julia Heredia and Mariel Cabrera.
- Lead project "Sheath Flow Around Interplanetary Coronal Mass Ejections," summer 2012. Student Andrew Mahn.
- Lead Project "Computing the Alfven Radius Using 1 AU Observations," summer 2013. Student Brandon Ng.
- Lead Project "Using Voyager 2 to Predict the HMF at Pluto for New Horizons," summer 2014. Students Nick Payne and Jared Spang.
- Lead Project "Examination of Waves due to Interstellar Pickup Ions," summer 2014. Students Jared Spang and Nick Payne.
- Lead Project "Source of Accelerated Particles Found in Shocks," summer 2015. Students Shereen Elaidi, Desmond Maynard, and Milap Patel.
- Lead Project, "Observations of Magnetic Waves in the Voyager Data Set," summer 2016. Student Marios Socrates Dimitriadis.
- Lead Project, "Measenger Treasure Hunt: Search for Physics at the Kinetic Scales," summer 2017. Students Keeyote Slover-Carpenter, Suat Utku Inal, Elizabeth Orlando, Drew Stetson, Cheyenne Stirnweis, Carolyn Stoller, and Crisleidy Tejada.
- Co-Lead Project, "Building Fluxgate Magnetometers," summer 2017. Students Gino Catruch, William Murray, Harlan Turner, Karmeron Virkaitis, and Andrew Wasylyna.

Research Grant Support:

Principal Investigator:

2017-2018	NASA Heliospheric Guest Investigator Program Grant to the University of New Hampshire: "Voyager MAG Observations at Kinetic Scales: Pickup Ion Waves and Turbulence from 1 to 35 AU" ($108,000).
2016-2019	NSF/SHINE Program Grant to the University of New Hampshire: "Using the Solar Wind as a Turbulence Laboratory to Investigate the Role of Intermittency and Shear" ($370,648).
2016-2017	NASA Grant to the University of New Hampshire: "Proposal to Support Voyager MAG Studies" ($35,474).
2009-2012	NSF Annual Solicitation for Research in Support of the National Space Weather Program Grant to the University of New Hampshire: "Automated Shock Analysis for Space Weather Predictions" ($113,818).
2008-2011	NASA Heliospheric Guest Investigator Program Grant to the University of New Hampshire: "Turbulent MHD Cascade in the Solar Wind: The Interconnection of Energy Input, Spectra, Third Moment, and Heating" ($381,943).

2001-2004	NASA Sun-Earth Connection Guest Investigator Program Grant to the University of Delaware: "Comparative Study of Interplanetary Magnetic Field Turbulence at High and Low Latitudes Using the Ulysses and Voyager Spacecraft" ($286,105).
1997-2000	NASA Heliospheric Missions Guest Investigator Research and Analysis Program Grant to the University of Delaware: "Investigation of Interplanetary Turbulence at High Latitude Using the Ulysses Spacecraft" ($248,199).
1993-1996	NASA Neptune Data Analysis Program Grant to the University of Delaware: "Magnetic Field Waves at Neptune's Bow Shock" ($152,560).
1992-1996	NASA Cosmic and Heliospheric Physics Coordinated Heliospheric Observations Program Grant to the University of Delaware: "Turbulent and Large Scale Interplanetary Magnetic Fields" ($120,000).
1988-1991	NASA Uranus Data Analysis Program Grant to the University of Delaware: "Magnetic Field Waves at Uranus" ($80,000).
1988-1991	NASA Pioneer-Venus Guest Investigator Program Grant to the Universoty of Delaware: "Radial Evolution of the Solar Wind Turbulence with Application to Charged Particle Transport" ($74,865).
1982-1983	NASA ISEE Guest Investigator Program Grant to the University of New Hampshire ($21,000).

Co-Investigator or Co-Principal Investigator:

2017-2020	Co-Investigator on NASA Heliophysics Grand Challenge Grant to the University of New Hampshire: "Physical Origins of Suprathermal Ion Populations Throughout the Heliosphere"; N. Lugaz, P.I. ($1,587,936 to UNH).
2017-2020	Co-Investigator on NASA Heliospheric Supporting Research Grant: "A Systematic Study of the Physics of Energetic Storm Particle Events Near Earth Orbit"; R. Ebert, P.I. ($75,000 to UNH).
2015-2018	Co-Investigator on NASA Heliospheric Guest Investigator Grant: "EMIC Waves and Associated Relativistic Electron Precipitation"; J. Chen, P.I. ($508,000 to UNH).
2014-2016	Co-Investigator on NSF / SHINE Grant: "Statistical Analysis of Magnetic Helicity of the Solar Wind Turbulence at Kinetic Scales"; B. J. Vasquez, P.I. ($407,865 to UNH).
2013-2016	Co-Investigator on NASA Heliospheric Guest Investigator Grant: "Understanding the Links Between Energetic Storm Particle Events and Large Solar Energetic Particles Events"; M. Desai, P.I. ($75,000 to UNH).
2011-2013	Co-Investigator on NASA Heliophysics Theory Program Grant: "Turbulence and Kinetic Plasma Physics in the Solar Wind"; B. Chandran, P.I. ($1,396,577).

2010-2013	Co-Investigator on DOE Grant "Cluster for Integrated Computation and Analysis of Reconnection and Turbulence (CICART)"; A. Bhattacharjee, P.I. ($3,348,305).
2009-2012	Co-Investigator on NASA Solar & Heliospheric Guest Investigator Program Grant: "Understanding of Preferential Acceleration of Heavy Ions in the Heliosphere with Ulysses and ACE Particle and Wave Data"; V. Shevchenko, P.I. ().
2008-2011	Co-Investigator on NASA Solar & Heliospheric Guest Investigator Program Grant: "Upstream Waves at Interplanetary Shocks: Comparison of Observations and Theory"; M. Lee, P.I. ().
2007-2010	Co-Investigator on NASA Solar & Heliospheric Guest Investigator Program Grant: "Detection and Analysis of MHD Waves Generated by Interstellar Pickup Protons"; P. Isenberg, P.I. ($378,043).
2006-2009	Co-Investigator on NSF Physics Program Grant: "Numerical Simulations of the Turbulent Cascade in the Solar Wind at Kinetic Scales"; S. A. Markovskii, P.I. ($334,000).
2005-2008	Co-Investigator on NASA Solar & Heliospheric SR&T Program Grant: "The Structure of Magnetic Clouds in the Inner Heliosphere: An Approach Through the Grad-Shafranov Equation"; C. Farrugia, P.I. ($330,901).
2005-2008	Co-Investigator on NASA Solar & Heliospheric SR&T Program Grant: "Dissipation of the Nearly Perpendicular Turbulence in the Solar Wind"; B. Vasquez, P.I. ($370,474).
2005-2008	Co-Investigator on NASA Solar & Heliospheric SR&T Program Grant: "Analysis of Velocity Fluctuations in Solar Wind Turbulence"; J. Borovsky, P.I. ($75,115).
2005-2008	Co-Investigator on NASA Living With A Star Program Grant: "Data Analysis and Modeling of Large Solar Energetic Particle Events of Solar Cycle 23"; M. Desai, P.I. ($94,592).
2004-2007	Co-Investigator on NASA Sun-Earth Connections Guest Investigator Program Grant: "Verifying, Refining, and Extending the Two-Component Analysis of Solar-Wind Turbulence: The Maltese Cross"; J. Borovsky, P.I. ($75,000).
2003-2006	Co-Investigator on NASA Research on the Structure of the Solar Wind at 1 AU Program Grant: "Reconstruction of Solar Wind Structures from Multi-Spacecraft Data"; Q. Hu, P.I. ($264,493).
2003-2006	Co-Investigator on NASA Research on the Structure of the Solar Wind at 1 AU Program Grant: "Statistical Characterization of Solar Wind Fluctuations at 1 AU Using Multiple Spacecraft Data"; W. H. Matthaeus, P.I. ($414,409).

2003-2006 Co-Investigator on NASA Research on the Structure of the Solar Wind at 1 AU Program Grant: "How the Various Types of MHD Turbulence in the Solar Wind Affect the Coupling of the Solar Wind to the Earth's Magnetosphere"; J. Borovsky, P.I. ($120,000).

2003-2006 Co-Investigator on NASA Research on the Structure of the Solar Wind at 1 AU Program Grant: "Multi-Point Observation of Interplanetary Shocks at 1 AU"; A. Szabo, P.I. ($80,291).

2003-2006 Co-Investigator on NASA Sun-Earth Connection of Living With a Star Solar or Heliospheric Physics Program Grant: "Energetic Particle Acceleration at CME-Driven Shocks"; D. Lario, P.I. ($329,835).

2002-2005 Co-Investigator on NASA Living With A Star Program Grant: "Forecasting Shocks and Energetic Particle Hazards Using L1 Monitors"; C. M. S. Cohen, P.I. ($315,890).

2002-2005 Co-Principal Investigator on NSF ATM – Solar Terrestrial Program Grant: "Space Weather Prediction with Cosmic Rays"; J. Bieber, P.I.

2001-2004 Co-Investigator on NASA Sun-Earth Connection Guest Investigator Program Grant: "Wave-Ion Dynamics in the Solar Wind" ($285,000).

2001-2004 Co-Investigator on NASA Sun-Earth Connection Guest Investigator Program Grant: "Using Multi-Spacecraft Observations to Investigate the Acceleration of Particles at Interplanetary Shocks and Their Transport in the Solar Wind" ($385,317).

1997-2000 Co-Principal Investigator on NSF Office of Science and Technology Infrastructure Grant: "Development of a Modernized Bartol Research Institute Computing Facility"; W. H. Matthaeus, P.I. ($411,238).

1990-1997 Co-Investigator on NASA Space Physics Theory Program Grant: "Particle Acceleration, Transport, and Turbulence in Cosmic and Heliospheric Physics"; W. H. Matthaeus, P.I.

- Initial funding period from 1990-1993.
- Renewal funding period from 1993-1996.
- Final funding from 1996-1997.

1989-1995 Co-Investigator on NASA Cosmic and Heliospheric Physics Branch Grant: "Turbulence and Particle Transport in Space Plasmas"

- Initial funding period from 1989-1991.
- Renewal funding period from 1991-1993.
- Renewal funding period from 1993-1995.

1989-1993 Co-Principal Investigator on NSF Solar Terrestrial Program Grant: "Cosmic Rays and Interplanetary Magnetic Field".

- Initial funding period from 1989-1990.
- Renewal funding period from 1990-1993.

1988-1990	Co-Investigator on NASA Astrophysical Theory Program Grant to the Bartol Research Institute: "Coordinated Research on Nonthermal Astrophysics".
1981-1987	Co-Investigator on NASA Solar–Terrestrial Theory Program Grant to the University of New Hampshire; L. A. Fisk, P.I.

Research Contract Support:

2006-present	Co-Investigator on University of Iowa subcontract to the University of New Hampshire: "Electric and Magnetic Field Instrument Suite and Integrated Science on Radiation Belt Storm Probes."
2003-present	Principal Investigator on California Institute of Technology subcontract to the University of New Hampshire: "ACE/MAG Maintenance and Data Analysis."

- Renewed following 2005 Senior Review for period 2006-2010.
- Renewed following 2010 Senior Review for period 2011-2015.
- Renewed following 2015 Senior Review for period 2016-2018.

1995-2001	Co-Investigator on Jet Propulsion Laboratory subcontract to the Bartol Research Institute: "Proposal for Re-Confirmation of Voyager MAG Team."
1994-1997	Co-Investigator on NOAA subcontract to the Bartol Research Institute to provide real-time solar wind data from ACE magnetometer.

Current Hirsch Index: 54
Hirsch Index since 2013: 36
Total Citations: 12,152
Citations since 2013: 5546
Listed on Google Scholar Citations Pages:
https://scholar.google.com/citations?user=w8tAOMoAAAAJ

PUBLICATION LIST

1. "The Structure of Axisymmetric Turbulence," C. W. Smith, Ph.D. Thesis (1981).

2. "Structure of Correlation Tensors in Homogeneous Anisotropic Turbulence," W. H. Matthaeus and C. W. Smith, *Physical Review*, **A24**, 2135-2144 (1981).

3. "Evaluation of Magnetic Helicity in Homogeneous Turbulence," W. H. Matthaeus, M. L. Goldstein and C. W. Smith, *Physical Review Letters*, **48**, 1256-1259 (1982).

4. "Turbulence Analysis of Jovian Upstream 'Wave' Phenomenon," C. W. Smith, M. L. Goldstein and W. H. Matthaeus, *Journal of Geophysical Research*, **A88**, 5581-5593 (1983). (Correction: *Journal of Geophysical Research*, **A89**, 9159-9160 (1984).)

5. "Large Amplitude MHD Waves Upstream of the Jovian Bow Shock," M. L. Goldstein, C. W. Smith and W. H. Matthaeus, *Journal of Geophysical Research*, **A88**, 9989-9999 (1983). (Correction: *Journal of Geophysical Research*, **A89**, 9161 (1984).)

6. "Electromagnetic Ion Beam Instabilities," S. P. Gary, C. W. Smith, M. A. Lee, M. L. Goldstein and D. W. Forslund, *Physics of Fluids*, **27**, 1852-1862 (1984).

7. "MHD Waves and Turbulence in the Sun and Interplanetary Medium," A. Barnes, M. Goldstein, J. Hollweg, J. Mariska, W. Matthaeus, C. Smith, E. Smith, R. Stein, G. Withbroe and R. Woo, in *Solar Terrestrial Physics: Present and Future*, ed. by D. M. Butler and K. Papadopoulos, *NASA Ref. Pub. 1120* (1984).

8. "Large Amplitude MHD Waves Upstream of the Jovian Bow Shock: Reinterpretation," M. L. Goldstein, H. K. Wong, A. F. Vinas and C. W. Smith, *Journal of Geophysical Research*, **A90**, 302-310 (1985).

9. "Beam Driven Ion Cyclotron Harmonic Resonances in the Terrestrial Foreshock," C. W. Smith, M. L. Goldstein, S. P. Gary and C. T. Russell, *Journal of Geophysical Research*, **A90**, 1429-1434 (1985).

10. "Coupled Hydrodynamic Wave Excitation and Ion Acceleration Upstream of the Jovian Bow Shock," C. W. Smith and M. A. Lee, *Journal of Geophysical Research*, **A91**, 81-90 (1986).

11. "Electromagnetic Ion Beam Instabilities: Growth at Cyclotron Harmonic Wave Numbers," C. W. Smith and S. P. Gary, *Journal of Geophysical Research*, **A92**, 117-125 (1987).

12. "Cosmic Ray Pitch Angle Scattering in Isotropic Turbulence," J. W. Bieber, C. W. Smith and W. H. Matthaeus, *The Astrophysical Journal*, **334**, 470-475 (1988).

13. "Anisotropy of Shock Accelerated Ion Distributions in Interplanetary Space," C. W. Smith, *Journal of Geophysical Research*, **A94**, 5474-5478 (1989).

14. "Whistler Wave Bursts Upstream of the Uranian Bow Shock," C. W. Smith, M. L. Goldstein and H. K. Wong, *Journal of Geophysical Research*, **A94**, 17,035-17,048 (1989).

15. "Measurement of the Dissipation Range Spectrum of Magnetic Fluctuations in the Solar Wind with Applications to the Diffusion of Cosmic Rays," C. W. Smith, W. H. Matthaeus and N. F. Ness, *Proceedings of the* $21^{\underline{st}}$ *International Cosmic Ray Conference* (Adelaide), **5**, 280-283 (1990).

16. "The Effects of the Dissipation Range on the Spatial Diffusion of Energetic Charged Particles," C. W. Smith, J. W. Bieber and W. H. Matthaeus, *Proceedings of the* $21^{\underline{st}}$ *International Cosmic Ray Conference* (Adelaide), **5**, 284-287 (1990).

17. "Measurement of the North/South Asymmetry of the IMF Spiral: Dependence Upon Heliocentric Distance," C. W. Smith and J. W. Bieber, *Proceedings of the* $21^{\underline{st}}$ *International Cosmic Ray Conference* (Adelaide), **5**, 304-307 (1990).

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265. "EMIC Waves and Associated Relativistic Electron Precipitation on 25-26 January 2013," J. Zhang, A. J. Halford, A. A. Saikin, C.-L. Huang, H. E. Spence, B. A. Larsen, G. D. Reeves, R. M. Millan, C. W. Smith, R. B. Torbert, W. S. Kurth, C. A. Kletzing, J. B. Blake, J. F. Fennel, and D. N. Baker, *Journal of Geophysical Research*, **121**, 11,08611,100, doi:10.1002/2016JA022918 (2016).

266. "Balloon Launches Introduce Students to Space Science," C. W. Smith, P. F. Bloser, N. Lugaz, L. Broad, S. Goelzer, and R. A. Levergood, *Eos*, **97**(23), 14–19, doi:10.1029/2016EO061101 (2016).

267. "The Effect of Electron Thermal Pressure on the Observed Magnetic Helicity in the Solar Wind," S. A. Markovskii, B. J. Vasquez, and C. W. Smith, *The Astrophysical Journal*, **833**, 212 (2016).

268. "In Situ Statistical Observations of Pc1 Pearl Pulsations and Unstructured EMIC Waves by the Van Allen Probes," K. W. Paulson, C. W. Smith, M. R. Lessard, R. B. Torbert, C. A. Kletzing, and J. R. Wygant, *Journal of Geophysical Research*, **122**, 105-119 (2017).

269. "Inferring the Heliospheric Magnetic Field Back through Maunder Minimum," F. Rahmanifard, N. A. Schwadron, C. W. Smith, K. G. McCracken, K. A. Duderstadt, N. Lugaz, and M. L. Goelzer, *The Astrophysical Journal*, **837**, 165 (2017).

270. "Listing of 502 Times When the Ulysses Magnetic Fields Instrument Observed Waves Due to Newborn Interstellar Pickup Protons," B. E. Cannon, C. W. Smith, P. A. Isenberg, B. J. Vasquez, C. J. Joyce, N. Murphy, and R. G. Nuno, *The Astrophysical Journal*, **840**, 13 (2017).

271. "Location of Intense Electromagnetic Ion Cyclotron (EMIC) Wave Events Relative to the Plasmapause: Van Allen Probes Observations," S. S. Tetrick, M. J. Engebretson, J. L. Posch, C. N. Olson, C. A. Kletzing, C. W. Smith, S. A. Thaller, J. R. Wygant,

G. D. Reeves, E. A. MacDonald, and J. F. Fennell, *Journal of Geophysical Research*, **122**, 4064–4088, doi:10.1002/2016JA023392 (2017).

272. "Observations of Low-Frequency Magnetic Waves due to Newborn Interstellar Pickup Ions Using ACE, Ulysses, and Voyager Data," C. W. Smith, P. Aggarwal, M. R. Argall, L. F. Burlaga, M. Bzowski, B. E. Cannon, S. P. Gary, M. K. Fisher, J. A. Gilbert, S. J. Hollick, P. A. Isenberg, C. J. Joyce, N. Murphy, R. G. Nuno, Z. B. Pine, J. D. Richardson, N. A. Schwadron, R. M. Skoug, J. M. Sokół, D. K. Taylor, and B. J. Vasquez, Sixteenth Annual International Astrophysics Conference 2017 - Turbulence, Structures, and Particle Acceleration Throughout the Heliosphere and Beyond, *Journal of Physics: Conference Series*, **900**, 012018 (2017).

273. "Observation of Magnetic Waves Excited by Newborn Interstellar Pickup He^+ Observed by the Voyager 2 Spacecraft at 30 AU," M. R. Argall, S. J. Hollick, Z. B. Pine, C. W. Smith, C. J. Joyce, P. A. Isenberg, B. J. Vasquez, N. A. Schwadron, J. M. Sokół M. Bzowski, and L. F. Burlaga, *The Astrophysical Journal*, **849**, 61 (2017).

274. "Comparing Simulated and Observed EMIC Wave Amplitudes Using in situ Van Allen Probes Measurements," A. A. Saikin, V. K. Jordanova, J.-C. Zhang, C. W. Smith, H. E. Spence, B. A. Larsen, G. D. Reeves, R. B. Torbert, C. A. Kletzing, I. S. Zhelavskaya, and Y. Y. Shprits, *Journal of Atmospheric and Solar-Terrestrial Physics*, in press (2018).

275. "A Survey of EMIC Waves with Harmonic Signatures: Van Allen Probes Results," M. R. Argall, R. B. Torbert, C. A. Kletzing, C. W. Smith, R. MacDowell, J. R. Wygant, and J. W. Bonnell, *Geophysical Research Letters*, submitted (2013).

276. "Local Plasma Conditions During EMIC Wave Events Detected in the Inner Magnetosphere by the Van Allen Probes," A. A. Saikin, J.-C. Zhang, C. W. Smith, H. E. Spence, B. A. Larsen, G. D. Reeves, R. B. Torbert, and C. A. Kletzing, *Journal of Geophysical Research*, submitted (2016).

277. "Observation and Numerical Simulation of Cavity Mode Oscillations Excited by an Interplanetary Shock," K. Takahashi, R. L. Lysak, M. Vellante, C. A. Kletzing, M. D. Hartinger, C. W. Smith, and H. J. Singer, *Journal of Geophysical Research*, submitted (2017).

278. "Correlation Scales of the Turbulent Cascade at 1 AU," C. W. Smith, B. J. Vasquez, J. T. Coburn, M. A. Forman, and J. E. Stawarz, *The Astrophysical Journal*, submitted (2017).

279. "Van Allen Probes Observations of Drift-Bounce Resonance and Energy Transfer Between Energetic Ring Current Protons and Poloidal Pc4 Wave," S. Oimatsu, M. Nose, K. Takahashi, K. Yamamoto, K. Keika, C. A. Kletzing, C. W. Smith, R. J. MacDowall, D. G. Mitchell, *Journal of Geophysical Research*, submitted (2017).

280. "The Turbulence Magnetic Helicity Signature in the Interplanetary Medium: A Blackman-Tukey and Morlet Wavelet Analysis," B. J. Vasquez, S. A. Markovskii, and C. W. Smith, *The Astrophysical Journal*, submitted (2017).

281. "Van Allen Probes Observation of a Fundamental Poloidal Standing Alfvn Wave Event Related to Giant Pulsations," K. Takahashi, S. G. Claudepierre, R. Rankin, I. R. Mann, and C. W. Smith, *Journal of Geophysical Research*, submitted (2017).

282. "Update on the Worsening Galactic Cosmic Radiation Environment Observed by CRaTER and Implications for Future Human Deep-Space Exploration," N. A. Schwadron, F. Rahmanifard, J. Wilson, A. Jordan, H. E. Spence, C. J. Joyce, J. B. Blake, A. W. Case, W. M. Farrell, J. C. Kasper, M. D. Looper, N. Lugaz, L. Mays, J. E. Mazur, N. Petro, C. W. Smith, L. W. Townsend, R. Winslow, and C. Zeitlin, *Space Weather*, submitted (2017).

Seminars and Colloquia (Excluding in-house presentations):

- "Two-Point Correlations in a Turbulent Magnetofluid and the Measurement of Magnetic Helicity"
  - Cornell, Laboratory of Plasma Studies, March 1981.
  - University of New Hampshire, Space Science Center, April 1981.
- "Non-Linear Wave-Wave and Wave-Particle Dynamics in Jovian and Upstream Wave Events"
  - Los Alamos National Laboratory, Space Plasma Physics Group, May 1983.
- "Electromagnetic Ion Beam Instabilities: Wave and Particle Distributions Upstream of Shocks"
  - Naval Research Laboratory, September 1986.
  - Bartol Research Institute, University of Delaware, October 1986.
- "Low Frequency Waves and Energetic Ions Upstream of the Jovian Bow Shock"
  - Center for Atmospheric and Space Sciences, University of Utah, October 1986.
- "Upstream Waves and Particles in the Heliosphere: An Overview"
  - Space Plasma Physics Group, Massachusetts Institute of Technology, January 1989.
- "Charged Particle Diffusion and Small Scale Fluctuations in the Solar Wind"
  - Institute for Earth, Oceans, and Space, University of New Hampshire, February 1989.
- "Issues Pertaining to the Quasilinear Theory of Particle Scattering"
  - Particle Acceleration in Cosmic Plasmas Workshop, University of Delaware, December 1991.
- "The Large-Scale Structure of the Interplanetary Magnetic Field"
  - Los Alamos National Laboratory, Space Plasma Physics Group, July 1992.
  - Institute for Earth, Oceans, and Space, University of New Hampshire, October 1992.
- "A Space Physicist's View of the Solar System"
  - Department of Physics, James Madison University, October 1992.
  - Department of Physics and Astronomy, Bates College, October 1992.
  - Department of Physics and Astronomy, Bowdoin College, October 1992.

- “A Discussion of the Interplanetary Magnetic Field”
  - Department of Physics, Washington University (St. Louis), November 1995.
- “Dynamics of the Solar Wind Dissipation Range at 1 AU”
  - Space Science Seminar Series, University of Maryland, March 1997.
- “Recent Results in Studies of the Solar Wind with Implications for Energetic Particle Propagation”
  - Space Science Seminar Series, University of Maryland, February 1999.
- “Recent Studies in Solar Wind Turbulence: Evaluation of a New Technique”
  - Johns Hopkins University Applied Physics Laboratory, November 2001.
  - Los Alamos National Laboratory, Space Plasma Physics Group, February 2002.
- “Waves vs. Turbulence in the Solar Wind: Is There Enough of Both to Go Around?”
  - University of New Hampshire, Department of Physics, March 2002.
- “Recent Results in Solar Wind Turbulence”
  - Los Alamos National Laboratory, Space Plasma Physics Group, April 2004.
  - Massachusetts Institute of Technology, Center for Space Research, May 2004.
- “Heating the Solar Wind and What is Space Physics?”
  - Physics and Astronomy Department, Colby College, February 2005.
  - Physics and Astronomy Department, Bates College, March 2005.
- “Dissipation and Heating in the Solar Wind”
  - Astronomy and Space Physics Department, Boston University, September 2005.
- “Interplanetary Space: Comets and Neutrals”
  - Physics and Astronomy Department, Colby College, September 2006.
  - Physics and Astronomy Department, Bates College, October 2006.
- “Turbulence in Space Plasmas,”
  - LWS Heliospheric Summer School (Boulder), August 2007.
  - Extended two-part lecture at Southwest Research Institute Graduate program, October 2007.
  - Extended two-part lecture at Southwest Research Institute Graduate program, November 2010.
- “Measurement of the Turbulent Cascade at 1 AU”
  - Southwest Research Institute, Department of Space Science, October 2007.
- “Introduction to the Solar Wind”
  - Norwich University, Department of Physics, January 2008.
- “The Evolving Interplanetary Spectrum”
  - Dartmouth University, Department of Physics, April 2008.
- “KAW Waves and the Dissipation of Magnetic Fluctuations in the Solar Wind”
  - Dartmouth University, Department of Physics, May 2012.

- "Three Easy Pieces - Slow Moving Shocks, Rarefactions, and Waves Due to Interstellar Pickup Ions"
  - Southwest Research Institute, Department of Space Science, November 2012.

Invited Talks:

1. "Radial Evolution of Turbulence in the Outer Heliosphere: Theory and Observation," W. H. Matthaeus, G. P. Zank and C. W. Smith (presented by W. H. Matthaeus), Fall Meeting of the American Geophysical Union (San Francisco, California), December 1996. (*Eos Transactions, American Geophysical Union*, **77** No. 46 Supplement, F574, 1996.)

2. "The ACE/MAG Experiment," N. F. Ness, M. H. Acuña, L. E. Burlaga, J. L'Heureux, J. Scheifele and C. W. Smith, ACE Science Workshop (Pasadena, California), January 1997.

3. "Dissipation of MHD Fluctuations – Fluid and Kinetic Aspects," C. W. Smith, R. J. Leamon and N. F. Ness, International Workshop on Nonlinear Waves and Turbulence in Space Plasmas (Köln, Germany), February 1997.

4. "Short-Term Variations of Cosmic Rays," A. C. Cummings, R. A. Leske, R. A. Mewaldt, E. C. Stone, M. E. Von Wiedenbeck, T. T. von Rosenvinge, E. R. Christian, C. W. Smith and W. C. Feldman (presented by A. C. Cummings), Spring Meeting of the American Geophysical Union (Boston, Massachusetts), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S256, 1998.)

5. "Early Results from the ACE Magnetic Field Experiment," C. W. Smith, N. F. Ness, R. J. Leamon, L. F. Burlaga and M. H. Acuña, Spring Meeting of the American Geophysical Union (Boston, Massachusetts), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S261, 1998.)

6. "The NOAA Real-Time Solar-Wind (RTSW) System Using ACE Data," R. Zwickl, K. Doggett, S. Sahm, W. Barrett, R. Grubb, T. Detman, V. Raben, C. Smith, P. Riley, R. Gold, R. Mewaldt and T. Maruyama (presented by R. Zwickl), Spring Meeting of the American Geophysical Union (Boston, Massachusetts), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S261, 1998.)

7. "ACE/WIND Comparisons of Interplanetary Measurements," C. W. Smith, N. F. Ness, R. J. Leamon, L. F. Burlaga, M. H. Acuña, M. R. Collier, W. C. Feldman, A. J. Lazarus and J. T. Steinberg, Spring Meeting of the American Geophysical Union (Boston, Massachusetts), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S299, 1998.)

8. "Solar-Cycle, Radial and Latitudinal Variations of Magnetic Helicity: IMF Observations," C. W. Smith, Chapman Conference on Magnetic Helicity in Space and Laboratory Plasmas (Boulder, Colorado), July 1998.

9. “Multi-Spacecraft Observations of Interplanetary Shocks,” A. Szabo, C. W. Smith, R. L. Tokar and R. M. Skoug (presented by A. Szabo), Spring Meeting of the American Geophysical Union (Boston, Massachusetts), June 1999. (*Eos Transactions, American Geophysical Union*, **80** (No. 17) Supplement, S265, 1999.)

10. “The Transition of Interplanetary Shocks through the Magnetosheath,” A. Szabo, C. W. Smith and R. Skoug (presented by A. Szabo), Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F966, 2000.)

11. “Asymmetries in the Interplanetary Magnetic Field and Solar Wind Plasma,” C. W. Smith, Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F983, 2000.)

12. “Spatial Transport and Heating of the Solar Wind by Dissipation of Turbulent Magnetic Fluctuations,” W. H. Matthaeus, C. W. Smith, G. P. Zank, and R. J. Leamon (presented by R. J. Leamon), IAGA-IASPEI Joint Scientific Assembly (Vietnam), August 2001.

13. “Waves and Turbulence Upstream of Interplanetary Shocks,” C. W. Smith, Particle Transport and Acceleration in Cosmic Plasmas (Riverside, California), February 2002.

14. “Solar Wind Heating and Dissipation: Theory and Observation,” W. H. Matthaeus, C. W. Smith, G. P. Zank, S. Oughton, R. L. Leamon (presented by W. H. Matthaeus), Solar Wind 10 (Nice, Italy), SIII-13, June 2002.

15. “Plasma Signatures of Interacting ICMEs at Earth,” C. W. Smith, SHINE 2002 (Banff, Canada), August 2002.

16. “Magnetic Helicity in the Solar Wind,” C. W. Smith, Thirty-Fourth COSPAR Scientific Assembly (Houston, Texas), October 2002.

17. “Magnetometer Measurement Perspectives for L1,” C. W. Smith, Geostorms: Real Time Solar Wind Workshop (Boulder, Colorado), November 2002.

18. “Advances in Charged Particle Scattering Theory,” C. W. Smith, Fall Meeting of the American Geophysical Union (San Francisco, California), December 2002.

19. “Heating the Low-Latitude Solar Wind by Dissipation of Magnetic Turbulence,” C. W. Smith, IGPP Second Annual International Astrophysics Conference *Waves and Turbulence in Interplanetary Space: Theory, Observations, and Ramifications* (Palm Springs, Ccalifornia), February 2003.

20. “Heliospheric Response to the October-November Solar Events,” C. T. Russell, P. J. Chi, G. Delory, M. Dougherty, J. G. Luhmann, R. Skoug, C. W. Smith (presented by C. T. Russell), Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SM52G-04, 2003.)

21. "Heating the Outer Heliosphere by Pickup Ions," C. W. Smith, IGPP Third Annual International Astrophysics Conference *Physics of the Outer Heliosphere* (Riverside, California), February 2004.

22. "Ion Acceleration in the Outer Heliosphere," R. Kallenbach, K. Bamert, M. Hilchenbach, and C. W. Smith (presented by R. Kallenbach), IGPP Third Annual International Astrophysics Conference *Physics of the Outer Heliosphere* (Riverside, California) February 2004.

23. "Non-Axisymmetric and Multi-Tube Magnetic Flux Ropes in the Solar Wind," Q. Hu, C. W. Smith, N. F. Ness, and R. Skoug (presented by Q. Hu), SHINE 2004 (Big Sky, Montana), June 2004.

24. "Turbulent Dissipation of Magnetic Energy in the Solar Wind," C. W. Smith, Particle Effects in MHD Turbulence Workshop (Santa Fe), October 2004.

25. "Review of Solar Wind Heating: Observations and Theory," C. W. Smith, Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH44A-03, 2004.)

26. "Observations of Turbulence Near Interplanetary Travelling Shocks," R. Kallenbach, K. Bamert, M. Hilchenbach, and C. W. Smith (presented by R. Kallenbach), IGPP Fourth Annual International Astrophysics Conference *Physics of Collisionless Shocks* (Palm Springs, California) March 2005.

27. "Solar Probe: Humanity's First Visit To A Star," D. J. McComas, M. Velli, W. S. Lewis, L. W. Acton, M. Balat, V. Bothmer, R. B. Dirling, Jr., D. A. Eng, W. C. Feldman, G. Gloeckler, M. Guhathakurta, S. R. Habbal, D. M. Hassler, I. Mann, H. M. Maldonado, W. H. Matthaeus, R. L. McNutt, Jr., R. A. Mewaldt, N. Murphy, L. Ofman, K. A. Potoki, E. C. Sittler, Jr., C. W. Smith, and T. H. Zurbuchen (presented by D. J. McComas), Solar Wind 11 (Whistler, Canada), June 2005.

28. "Recent Results in Solar Wind Turbulence Studies," C. W. Smith, Structure and Transport in Solar Wind Turbulence Workshop (Santa Fe), October 2005.

29. "Turbulence in the Solar Wind," C. W. Smith, SHINE 2006 (Midway, UT), July 2006.

30. "Upstream and Downstream Magnetic Field of Interplanetary Shocks," C. W. Smith and Q. Hu, SHINE 2006 (Midway, UT), July 2006.

31. "The Special Significance of the Sign and Scaling of the Third Moment of Fluctuations in Hydrodynamic and Magnetodynamic Turbulence, Supported by Observations in the Solar Wind," M. A. Forman, C. W. Smith, and B. T. MacBride (presented by M. A. Forman), SHINE 2006 (Midway, UT), July 2006.

32. "Recent Results of the 2005 LWS TR&T Focus Team for Solar Energetic Particles," M. I. Desai, C. M. S. Cohen, C. W. Smith, M. A. Lee, D. V. Reames, C. K. Ng,

A. J. Tylka, J. Kota, J. Giacalone, J. R. Jokipii, I. Sokolov, I. Roussev, T. Gombosi, Y. Litvinenko, G. Li and G. P. Zank (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH23C-03, 2006.)

33. "The Electric and Magnetic Field Instrument Suite with Integrated Science (EMFISIS) on the Radiation Belt Storm Probes," C. A. Kletzing, W. Kurth, M. Acuna, R. Torbert, R. Thorne, V. Jordanova, S. Bounds, C. Smith, O. Santolik, R. Pfaff, D. Rowland, G. Hospadarsky, W. Baumjohann, R. Nakamura, and P. Puhl-Quinn, Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SM33A-0332, 2006.)

34. "Weakly Compressible MHD Turbulence in the Solar Wind: Scaling of Density and Anisotropic Magnetic Fluctuation Spectra," A. Bhattacharjee, C.-S. Ng, C. W. Smith and B. Vasquez (presented by A. Bhattacharjee), Sixth Annual International Astrophysics Conference: "Turbulence and Nonlinear Processes in Astrophysical Plasmas" (Honolulu), March 2007.

35. "Turbulence Spectrum of Interplanetary Magnetic Fluctuations and the Rate of Energy Cascade," C. W. Smith, M. A. Forman, K. Hamilton, R. J. Leamon, B. T. MacBride, J. A. Tessein, and B. J. Vasquez (presented by C. W. Smith), Seventh Annual International Astrophysics Conference: "Turbulence and Nonlinear Processes in Astrophysical Plasmas" (Honolulu), March 2007.

36. "Observations of MHD Turbulence near CME-Driven Interplanetary Shocks," K. Bamert, R. Kallenbach, M. Hilchenback, and C. W. Smith (presented by R. Kallenbach), Sixth Annual International Astrophysics Conference: "Turbulence and Nonlinear Processes in Astrophysical Plasmas" (Honolulu), March 2007.

37. "Observation of Enhanced Wave Spectra (or its Absence) in Large SEP Events," C. W. Smith (presented by G. Li), SHINE 2007 Workshop (Whistler, Canada), August 2007.

38. "The Turbulent Solar Wind: Energy-Containing, Inertial, and Dissipation Range Characteristics," R. J. Leamon and C. W. Smith (presented by R. J. Leamon), ISSI Workshop: Transport of Energetic Particles in the Inner Heliosphere (Bern, Switzerland), November 2007.

39. "Anisotropies and Helicities in the Solar Wind Inertial and Dissipation Ranges at 1 AU," C. W. Smith, B. J. Vasquez, R. J. Leamon, and K. Hamilton, Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH32B-01, 2007.)

40. "Preliminary Results from SEP and ESP Studies," C. W. Smith and M. A. Lee, Seventh Annual International Astrophysics Conference: "Particle Acceleration and Transport in the Heliosphere and Beyond" (Princeville, Hawaii), March 2008.

41. "Solar Wind" Parts 1 & 2: Large-Scale Structure, Waves and Turbulence," C. W. Smith, University of Arizona and National Solar Observatory's 2008 Solar Physics Summer School (Sunspot, NM), June 2008.

42. "Observational Constraints for Solar Wind Turbulence," C. W. Smith, SHINE Workshop (Midway, UT), June 2008.

43. "The Turbulent Solar Wind with Application to Charged Particle Transport," C. W. Smith and R. J. Leamon (presented by R. J. Leamon), 37th COSPAR Assembly (Montreal), July 2008.

44. "The Evolving Interplanetary Spectrum: Turbulent Cascade and Kinetic Heating," C. W. Smith, The Interface Between Plasma Dissipation Processes and MHD Turbulence in Space Plasmas Workshop (Santa Fe), October 2008.

45. "Turbulent Cascade Dynamics in the Interplanetary Plasma," C. W. Smith, M. A. Forman, J. J. Podesta, B. J. Vasquez, W. H. Matthaeus, J. A. Tessein, J. E. Stawarz, B. T. MacBride, J. E. Borovsky, and D. C. Elton (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2008. (*Eos Transactions, American Geophysical Union*, **89**(53), Fall Meeting Supplement, Abstract NG43B-03, 2008.)

46. "The role of CMEs in the solar cycle and Evidence for a Floor in the Open Magnetic Flux," N. A. Schwadron, N. Crooker, M. J. Owens, C. W. Smith, D. E. Connick, T. S. Horbury, O. C. St Cyr, N. Gopalswamy, S. Yashiro, and H. Xie (presented by N. A. Schwadron), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

47. "Examination of the Power Spectrum and Multi-Dimensional Cascade for Evidence of $\langle \delta V \cdot \delta B \rangle$ Effects," C. W. Smith, J. A. Tessein, J. E. Stawarz, B. J. Vasquez, M. A. Forman, and B. J. MacBride (presented by C. W. Smith), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

48. "The Turbulent Cascade and Proton Heating in the Solar Wind at 1 AU with Emphasis on High Cross Helicity States," C. W. Smith, M. A. Forman, J. E. Stawarz, B. J. Vasquez, J. A. Tessein, and B. J. MacBride (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SM42B-02, 2009.)

49. "The Turbulent Cascade: The Ultimate Fate of Nonlinear Waves?," C. W. Smith, M. A. Forman, J. E. Stawarz, B. J. Vasquez, and B. J. MacBride (presented by M. A. Forman), Nonlinear Waves Workshop 8 (La Jolla, California), March 2010.

50. "Voyager and ACE Observations of Waves Due to Interstellar Pickup He^+," C. W. Smith, C. J. Joyce, P. A. Isenberg, N. Murphy and N. A. Schwadron (presented by P. A. Isenberg), Ninth Annual International Astrophysics Conference: "Pickup Ions Throughout the Heliosphere and Beyond" (Maui, Hawaii), March 2010.

51. "Solar Wind Turbulent Heating by Interstellar Pickup Protons - 2 Component Model," P. A. Isenberg, S. Oughton, C. W. Smith and W. H. Matthaeus (presented by P. A. Isenberg), Ninth Annual International Astrophysics Conference: "Pickup Ions Throughout the Heliosphere and Beyond" (Maui, Hawaii), March 2010.

52. "The Turbulent Cascade," C. W. Smith, Los Alamos Workshop on Turbulence in Astrophysical Plasmas (Santa Fe), October 2010.

53. "Third-Moment Studies of Cascade Dynamics in Solar Wind Turbulence," C. W. Smith, J. E. Stawarz, B. J. Vasquez, M. A. Forman, and B. T. MacBride (presented by C. W. Smith), Abstract SH53A-02, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

54. "Measurements of Ongoing Magnetic Reconnection Below the Alfven Critical Point During the Protracted Solar Minimum," C. W. Smith, N. A. Schwadron, and D. E. Connick (presented by C. W. Smith), Workshop on the Causes and Consequences of Solar Cycle 24 (Boulder, CO), May 2011.

55. "The Argument Against Kinetic Alfven Waves Forming the Whole of the Dissipation Range," C. W. Smith, B. J. Vasquez, and J. V. Hollweg (presented by C. W. Smith), SHINE Workshop (Snowmass, CO), July 2011.

56. "The Community's Debate of Interplanetary Turbulence," C. W. Smith, Plenary Talk, SHINE Workshop (Maui, Hawaii), June 2012.

57. "The Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Radiation Belt Storm Probes," C. Kletzing, W. S. Kurth, R. J. MacDowall, R. B. Torbert, S. R. Bounds, G. B. Hospodarsky, C. W. Smith, J. E. Connerney, O. Santolik, R. M. Thorne, V. K. Jordanova, J. R. Wygant, J. W. Bonnell (presented by C. Kletzing), Abstract SM42B-02, Fall Meeting of the American Geophysical Union (San Francisco), December 2012.

58. "Interplanetary Magnetic Flux and the Protracted Solar Minimum: Balancing CME Eruption with Reconnection," C. W. Smith and N. A. Schwadron (presented by C. W. Smith), AGU Chapman Conference on the Causes and Consequences of the Extended Solar Minimum Between Solar Cycles 23 and 24 (Key Largo), April 2013.

59. "Interplanetary Turbulence During the Protracted Solar Minimum," C. W. Smith, J. T. Coburn, B. J. Vasquez, J. E. Stawarz, and M. A. Forman (presented by C. W. Smith), AGU Chapman Conference on the Causes and Consequences of the Extended Solar Minimum Between Solar Cycles 23 and 24 (Key Largo), April 2013.

60. "Large-scale Magnetic Flux as a Regulator for Solar Wind and Coronal Conditions in the Deep Solar Minimum," N. A. Schwadron, J. C. Kasper, K. K. Kiefer, K. Korreck, S. Lepri, B. A. Maruca, D. McComas, H. Spence, C. Smith, and M. L. Stevens (presented by N. A. Schwadron), AGU Chapman Conference on the Causes and Consequences of the Extended Solar Minimum Between Solar Cycles 23 and 24 (Key Largo), April 2013.

61. "Initial Results From The Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Van Allen Probes," C. A. Kletzing, W. S. Kurth, R. MacDowall, R. B. Torbert, G. R. Hospodarsky, S. R. Bounds, C. W. Smith, J. Connerney, O. Santolik, R. Thorne, V. Jordanova, J. Wygant, and J. W. Bonnell (presented by C. A. Kletzing), Meeting of the Americas (Cancun, Mexico), May 2013.

62. "Initial Results From The Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Van Allen Probes," C. A. Kletzing, W. S. Kurth, R. MacDowall, R. B. Torbert, G. R. Hospodarsky, S. R. Bounds, C. W. Smith, J. Connerney, O. Santolik, R. Thorne, V. Jordanova, J. Wygant, and J. W. Bonnell (presented by C. A. Kletzing), Japanese Geophysical Union Meeting (Chiba), May 2013.

63. "To Better Probe the Dynamics of Interplanetary Turbulence," C. W. Smith, Workshop on Trailing Edges of High-Speed Streams (Ann Arbor, Michigan), May 2013.

64. "Why a Dissipation Grand Challenge?", C. W. Smith, SHINE 2013 (Buford, Georgia), June 2013.

65. "Turbulence Associated with CIRs", C. W. Smith, SHINE 2013 (Buford, Georgia), June 2013.

66. "Initial Results From the Van Allen Probes Plasma Wave Instrument," W. S. Kurth, G. B. Hospodarsky C. A. Kletzing, O. Santolik, S. R. Bounds, R. MacDowall, R. B. Torbert, C. W. Smith, J. Connerney, R. Thorne, V. Jordanova, J. Wygant, and J. W. Bonnell (presented by W. S. Kurth), Asia-Pacific Radio Science Conference (Taipei, Taiwan), September 2013.

67. "Van Allen Probes Observations of Energetic Particle Drift-Phase Structure in the Earth's Radiation Belts," S. G. Claudepierre, I. R. Mann, K. Takahashi, J. F. Fennell, T. P. O'Brien, M. K. Hudson, J. B. Blake, J. L. Roeder, J. H. Clemmons, H. E. Spence, G. D. Reeves, D. N. Baker, H. O. Funsten, R. H. W. Friedel, M. G. Henderson, C. A. Kletzing, W. S. Kurth, R. J. MacDowall, C. W. Smith, and J. R. Wygant (presented by S. G. Claudepierre), Asia Oceania Geosciences Society (Sapporo, Japan), July 2014.

68. "Nonlinear Magnetosphere-Ionosphere Coupling in Near-Earth Space During an ICME-Driven Storm," M. W. Liemohn, L. K. Smith, R. M. Katus, R. M. Skoug, B. A. Larsen, J. Wygant, C. W. Smith, R. Ilie, and N. Yu. Ganushkina (presented by M. W. Liemohn), 2014 LWS / Hinode / IRIS Workshop (Portland, OR), November 2014.

69. "Systematic Behavior of Heavy Ion Spectra in Large Gradual Solar Energetic Particle Events," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, G. Li, C. M. S. Cohen, R. A. Mewaldt, N. A. Schwadron, and C. W. Smith (presented by M. I. Desai), 14th Annual International Astrophysics Conference (Tampa), April 2015.

70. "Magnetoseismic study of plasmaspheric plasma using observations with the Van Allen Probes," K. Takahashi, R. E. Denton, W. Kurth, C. Kletzing, J. Wygant, J. Bonnell, L. Dai, K. Min, C. W. Smith, R. MacDowall (presented by K. Takahashi), International Union of Geodesy and Geophysics (IUGG) (Prague, Czech Republic), June 2015.

71. "The Tubulent Cascade and Intemittency," C. W. Smith, J. T. Coburn, M. A. Forman, B. J. Vasquez, and J. E. Stawarz (presented by C. W. Smith), SHINE 2015 (Stowe, VT), July 2015.

72. "Energy Ranges and Pitch Angles of Outer Radiation Belt Electrons Depleted by an Intense Dayside Hydrogen Band EMIC Wave Event on February 23, 2014," M. J. Engebretson, J. L. Posch, C.-L. Huang, S. G. Kanekal, M.-C. Fok, C. W. Smith, H. E. Spence, D. N. Baker, C. A. Kletzing, and J. R. Wygan (presented by M. J. Engebretson), Fall Meeting of the American Geophysical Union (San Francisco), December 2015.

73. "Investigating Why the Sun is not Accelerating Particles to Very High Energies in Solar Cycle 24," R. A. Mewaldt, C. M. S. Cohen, G. M. Mason, T. T. von Rosenvinge, G. Li, D. Odstrcil, C. W. Smith, and A. Vourlidas (presented by R. A. Mewaldt), Committee on Space Research - COSPAR (Istanbul, Turkey), August 2016.

74. "EMIC Waves and Associated Relativistic Electron Precipitation on 25-26 January 2013," J. Zhang, A. J. Halford, A. A. Saikin, C.-L. Huang, H. E. Spence, B. A. Larsen, G. D. Reeves, R. M. Millan, C. W. Smith, R. B. Torbert, W. S. Kurth, C. A. Kletzing, J. B. Blake, J. F. Fennel, and D. N. Baker (presented by J. Zhang), Asia Oceania Geosciences Society (Beijing, China), August 2016.

75. "Why are Solar Energetic Particle Intensities so much Lower in Solar Cycle 24, Especially at High Energies?," R. A. Mewaldt, G. Li, C. M. S. Cohen, G. M. Mason, T. T. von Rosenvinge, C. W. Smith, and A. Vourlidas (presented by R. A. Mewaldt), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH32A-05, December 2016.

76. "Observations of Low-Frequency Magnetic Waves due to Newborn Interstellar Pickup Ions Using ACE, Ulysses, and Voyager Data," C. W. Smith, P. Aggarwal, M. R. Argall, L. F. Burlaga, M. Bzowski, B. E. Cannon, S. P. Gary, M. K. Fisher, J. A. Gilbert, S. J. Hollick, P. A. Isenberg, C. J. Joyce, N. Murphy, R. G. Nuno, Z. B. Pine, J. D. Richardson, N. A. Schwadron, R. M. Skoug, J. M. Sokol, D. K. Taylor, B. J. Vasquez, and T. H. Zurbuchen (presented by C. W. Smith), Sixteenth Annual International Astrophysics Conference 2017 - Turbulence, Structures, and Particle Acceleration Throughout the Heliosphere and Beyond (Santa Fe), March 2017.

77. "A Statistical Examination of Favorable Plasma Conditions Concerning Inner MagnetosphereEMIC Wave Excitation," A. A. Saikin, J.-C. Zhang, C. W. Smith, H. E. Spence, B. A. Larsen, G. D. Reeves, R. B. Torbert, C. A. Kletzing, I. S. Zhelavskaya, and Y. Y. Shprits (presented by J.-C. Zhang), Japanese Geophysical Union (Makuhari Messe), May 2017.

78. "Van Allen Probes Observations of Modulation of Energetic Ion Fluxes by a Fundamental Poloidal Mode Standing Alfven Wave," K. Takahashi, S. Claudepierre, J. Wygant, C. Kletzing, and C. W. Smith (presented by K. Takahashi), Japanese Geophysical Union (Makuhari Messe), May 2017.

79. "Van Allen Probes Observations of Electromgagnetic Ion Cyclotron (EMIC) Wave Rising Tones," K. Sigsbee, C. A. Kletzing, O. Santolk, and C. W. Smith (presented by K. Sigsbee), 2018 Meeting of the U. S. National Committee of the International Union of Radio Science (Boulder), January 2018.

Published Abstracts and Contributed Talks:

1. "Correlation Tensors for Homogeneous Anisotropic Turbulence," W. H. Matthaeus and C. W. Smith (presented by W. H. Matthaeus), Fall Meeting of the American Geophysical Union (Baltimore), December 1980. (*Eos Transactions, American Geophysical Union*, **61** (46), 1079, 1980.)

2. "Some Recent Results from Theoretical Studies of the Solar Atmosphere and the Solar Wind," L. A. Fisk et al. (presented by L. A. Fisk), Fall Meeting of the American Geophysical Union (San Francisco), December 1981. (*Eos Transactions, American Geophysical Union*, **62** (45), 1015, 1981.)

3. "An Analysis of the Turbulent Upstream Wave Region of Jupiter," C. W. Smith, M. L. Goldstein and W. H. Matthaeus, Fall Meeting of the American Geophysical Union (San Francisco), December 1981. (*Eos Transactions, American Geophysical Union*, **62** (45), 1020, 1981.)

4. "A Magnetic Helicity Measurement Technique and Its Relevance to MHD Systems," C. W. Smith, W. H. Matthaeus and M. L. Goldstein, Theory Institute in Solar-Terrestrial Physics (Boston College), August 1982.

5. "Turbulence Analysis of the Jovian Upstream Wave Phenomenon," C. W. Smith, M. L. Goldstein and W. H. Matthaeus, Fall Meeting of the American Geophysical Union (San Francisco), December 1982. (*Eos Transactions, American Geophysical Union*, **63** (45), 1085, 1982.)

6. "A Turbulence Analysis of Terrestrial Upstream Waves," C. W. Smith, M. L. Goldstein and M. A. Lee, Spring Meeting of the American Geophysical Union (Baltimore), May 1983. (*Eos Transactions, American Geophysical Union*, **64** (18), 306, 1983.)

7. "Electromagnetic Ion Beam Instabilities," C. W. Smith, S. P. Gary and M. L. Goldstein, Fall Meeting of the American Geophysical Union (San Francisco), December 1983. (*Eos Transactions, American Geophysical Union*, **64** (45), 821, 1983.)

8. "Coupled Hydromagnetic Wave Excitation and Ion Acceleration Upstream of the Jovian Bow Shock," M. A. Lee and C. W. Smith, Spring Meeting of the American Geophysical Union (Cincinnati), May 1984. (*Eos Transactions, American Geophysical Union*, **65** (16), 269, 1984.)

9. "Electromagnetic Ion Beam Instabilities: Anisotropic Beams, Hot Beams, and Oblique Propagation," C. W. Smith and S. P. Gary, Spring Meeting of the American Geophysical Union (Cincinnati), May 1984. (*Eos Transactions, American Geophysical Union*, **65** (16), 270, 1984.)

10. "Electromagnetic Ion Beam Instabilities: Generation of Obliquely Propagating Waves via Harmonic Resonance," C. W. Smith and S. P. Gary, Fall Meeting of the American Geophysical Union (San Francisco), December 1985. (*Eos Transactions, American Geophysical Union*, **66** (46), 1045, 1985.)

11. "Electromagnetic Ion Beam Instabilities: Generation of Obliquely Propagating Waves via Harmonic Resonance with an Ion Beam," C. W. Smith and S. P. Gary, Spring Meeting of the American Physical Society (Washington, D.C.), April 1986. (*Bulletin of the American Physical Society*, **31** (4), 812, 1986.)

12. "Generation of Obliquely Propagating Electromagnetic Waves via Harmonic Resonance with an Ion Beam," C. W. Smith and S. P. Gary, Symposium No. 6 of $XXVI^{th}$ Cospar Meeting (Toulouse, France), July 1986.

13. "Cosmic Ray Pitch Angle Scattering in Isotropic Turbulence," J. W. Bieber, C. W. Smith and W. H. Matthaeus, Fall Meeting of the American Geophysical Union (San Francisco), December 1987. (*Eos Transactions, American Geophysical Union*, **68** (44), 1414, 1987.)

14. "Waves Upstream of the Uranian Bow Shock," C. W. Smith and M. L. Goldstein, Fall Meeting of the American Geophysical Union (San Francisco), December 1987. (*Eos Transactions, American Geophysical Union*, **68** (44), 1430, 1987.)

15. "The Spatial Diffusion of Energetic Charged Particles: Effects of the Dissipation Scale," C. W. Smith, W. H. Matthaeus and J. W. Bieber, Spring Meeting of the American Geophysical Union (Baltimore), May 1988. (*Eos Transactions, American Geophysical Union*, **69** (16), 458, 1988.)

16. "Structure Function Analysis of Interplanetary Magnetic Field Fluctuations," N. F. Ness, W. H. Matthaeus and C. W. Smith, Spring Meeting of the American Geophysical Union (Baltimore), May 1988. (*Eos Transactions, American Geophysical Union*, **69** (16), 459, 1988.)

17. "Whistler Wave Bursts Upstream of the Uranian Bow Shock," C. W. Smith and M. L. Goldstein, Fall Meeting of the American Geophysical Union (San Francisco), December 1988. (*Eos Transactions, American Geophysical Union*, **69** (44), 1357, 1988.)

18. "Asymmetries in the Solar Wind," C. W. Smith, Pioneer-Venus Science Steering Group Meeting, NASA/Ames Research Center (Mountain View, California), March 1989.

19. "Sensitive Dependence of Particle Scattering on the Form of the Magnetic Dissipation Range," C. W. Smith, J. W. Bieber and W. H. Matthaeus, Spring Meeting of

the American Physical Society (Baltimore), May 1989. (*Bulletin of the American Physical Society*, **34** (4), 1171, 1989.)

20. "Solar Cycle Variation of Low-Frequency IMF Spectra," J. Chen et al. (presented by J. Chen), Spring Meeting of the American Physical Society (Baltimore), May 1989. (*Bulletin of the American Physical Society*, **34** (4), 1185, 1989.)

21. "Application of Structure Function Techniques to the Study of Dissipation Spectra in the Solar Wind," C. W. Smith, W. H. Matthaeus and N. F. Ness, Spring Meeting of the American Geophysical Union (Baltimore), May 1989. (*Eos Transactions, American Geophysical Union*, **70** (15), 420, 1989.)

22. "The North/South Asymmetry of the Interplanetary Magnetic Field Spiral: Observations in the Outer Heliosphere," C. W. Smith and J. W. Bieber, Symposium on the Outer Heliosphere (Durham, New Hampshire), May 1989.

23. "Measurement of the Dissipation Range Spectrum of Magnetic Fluctuations in the Solar Wind with Applications to the Diffusion of Cosmic Rays," C. W. Smith, W. H. Matthaeus and N. F. Ness, $21^{\underline{st}}$ International Cosmic Ray Conference (Adelaide, Australia), January 1990.

24. "The Effects of the Dissipation Range on the Spatial Diffusion of Energetic Charged Particles," C. W. Smith, J. W. Bieber and W. H. Matthaeus, $21^{\underline{st}}$ International Cosmic Ray Conference (Adelaide, Australia), January 1990.

25. "Measurement of the North/South Asymmetry of the IMF Spiral: Dependence Upon Heliocentric Distance," C. W. Smith and J. W. Bieber, $21^{\underline{st}}$ International Cosmic Ray Conference (Adelaide, Australia), January 1990.

26. "Dissipation Range Spectra in Space and Laboratory Plasmas with Implications for Charged Particle Diffusion and Transport," C. W. Smith, W. H. Matthaeus, J. W. Bieber and N. F. Ness, Sherwood Theory Conference (Williamsburg), April 1990.

27. "Ion Ring-Beam Driven Ion Cyclotron Harmonic Resonances," M. L. Goldstein, H. K. Wong and C. W. Smith (presented by M. L. Goldstein), Spring Meeting of the American Geophysical Union (Baltimore), May 1990. (*Eos Transactions, American Geophysical Union*, **71** (17), 582, 1990.)

28. "Solar Cycle Dependence of the Interplanetary Magnetic Field Spiral," C. W. Smith and J. W. Bieber, Spring Meeting of the American Geophysical Union (Baltimore), May 1990. (*Eos Transactions, American Geophysical Union*, **71** (17), 584, 1990.)

29. "Neptune's Polar Cusp Region: Plasma Observations," A. Szabo et al. (presented by A. Szabo), Spring Meeting of the American Geophysical Union (Baltimore), May 1990. (*Eos Transactions, American Geophysical Union*, **71** (17), 609, 1990.)

30. "Low-Frequency Waves in the Solar Wind Downstream from Neptune," M. Zhang et al. (presented by M. Zhang), Spring Meeting of the American Geophysical Union (Baltimore), May 1990. (*Eos Transactions, American Geophysical Union*, **71** (17), 610, 1990.)

31. "Upstream Waves at the Outer Planets," C. W. Smith, H. K. Wong, M. L. Goldstein and M. Zhang, Magnetospheres of the Outer Planets Meeting, (Annapolis), August 1990.

32. "Electron Beam Driven Whistler Waves Upstream of the Uranian Bow Shock," C. W. Smith, H. K. Wong and M. L. Goldstein, Fall Meeting of the American Geophysical Union (San Francisco), December 1990. (*Eos Transactions, American Geophysical Union*, **71** (43), 1516, 1990.)

33. "North/South Asymmetry of the Interplanetary Magnetic Field Spiral: Radial Variations," J. W. Bieber and C. W. Smith, Fall Meeting of the American Geophysical Union (San Francisco), December 1990. (*Eos Transactions, American Geophysical Union*, **71** (43), 1519, 1990.)

34. "Remote Sensing of Neptune's Bow Shock," I. H. Cairns, C. W. Smith, W. S. Kurth, D. A. Gurnett and S. L. Moses (presented by I. H. Cairns), Spring Meeting of the American Geophysical Union (Baltimore), May 1991. (*Eos Transactions, American Geophysical Union*, **72** (17), 243, 1991.)

35. "Large Scale Motions of Neptune's Bow Shock: Evidence for Control of the Shock Position by the Rotation Phase of Neptune's Magnetic Field," I. H. Cairns, C. W. Smith, W. S. Kurth, D. A. Gurnett and S. L. Moses (presented by I. H. Cairns), IAGA, International Union of Geodesy and Geophysics 20$^{\underline{th}}$ General Assembly, August 1991.

36. "Observational Study of the IMF Spiral North and South of the Current Sheet," C. W. Smith and J. W. Bieber, Seventh International Solar Wind Conference (Goslar, Germany), September 1991.

37. "A Study of Langmuir Waves Upstream from Uranus' Bow Shock," S. Xue, I. H. Cairns, D. A. Gurnett and C. W. Smith (presented by S. Xue), Annual Meeting of the Iowa Academy of Science, April 1992.

38. "A Study of Langmuir Waves Upstream from Uranus' Bow Shock," S. Xue, I. H. Cairns, D. A. Gurnett and C. W. Smith (presented by S. Xue), Spring Meeting of the American Geophysical Union (Montreal, Canada), May 1992. (*Eos Transactions, American Geophysical Union*, **73** (14), 241, 1992.)

39. "Magnetic Helicity in the Solar Wind: Radial Variation and Cosmic Ray Effects," J. W. Bieber and C. W. Smith (presented by J. W. Bieber), Spring Meeting of the American Geophysical Union (Montreal, Canada), May 1992. (*Eos Transactions, American Geophysical Union*, **73** (14), 247, 1992.)

40. "Mirroring in Cosmic-Ray Diffusion Calculations," C. W. Smith, J. W. Bieber and W. H. Matthaeus, Spring Meeting of the American Geophysical Union (Montreal, Canada), May 1992. (*Eos Transactions, American Geophysical Union*, **73** (14), 247, 1992.)

41. "ULF Turbulence in the Neptunian Polar Cusp," W. M. Farrell, R. P. Lepping and C. W. Smith (presented by W. M. Farrell), Spring Meeting of the American Geophysical Union (Montreal, Canada), May 1992. (*Eos Transactions, American Geophysical Union*, **73** (14), 261, 1992.)

42. "Magnetic Helicity in the Solar Wind: Radial Variation and Cosmic Ray Effects," J. W. Bieber, P. Evenson and C. W. Smith (presented by P. Evenson), 26^{th} ESLAB Symposium, Study of the Solar-Terrestrial System (Killarney, Ireland), June 1992.

43. "Parametric Instability of Whistler Wave Instability at Uranus," C. W. Smith and H. K. Wong, Fall Meeting of the American Geophysical Union (San Francisco), December 1992. (*Eos Transactions, American Geophysical Union*, **73** Supplement, 442, 1992.)

44. "Solar Wind Deceleration Upstream of the Jovian Bow Shock: Evidence for Fermi Acceleration," C. W. Smith and J. D. Richardson, Spring Meeting of the American Geophysical Union (Baltimore), May 1993. (*Eos Transactions, American Geophysical Union*, **74** Supplement, 247, 1993.)

45. "The Statistics of Substorm Occurrence," J. E. Borovsky, R. J. Nemzek, T. M. Lemons, R. D. Belian and C. W. Smith (presented by J. E. Borovsky), Spring Meeting of the American Geophysical Union (Baltimore), May 1993. (*Eos Transactions, American Geophysical Union*, **74** Supplement, 275, 1993.)

46. "Detection of Steady Magnetic Helicity in Low-Frequency IMF Turbulence," C. W. Smith and J. W. Bieber, $23^{\underline{rd}}$ International Cosmic Ray Conference (Calgary, Alberta), September 1993.

47. "A Turbulence Theory Solution of the Quasilinear Theory Puzzle," J. W. Bieber, W. H. Matthaeus and C. W. Smith (presented by J. W. Bieber), $23^{\underline{rd}}$ International Cosmic Ray Conference (Calgary, Alberta), September 1993.

48. "Left-Hand Polarized Magnetic Waves at Whistler Mode Frequencies," H. K. Wong and C. W. Smith (presented by H. K. Wong), Fall Meeting of the American Geophysical Union (San Francisco), December 1993. (*Eos Transactions, American Geophysical Union*, **74** Supplement, 493, 1993.)

49. "Whistler Waves Upstream of Neptune's Bow Shock," C. W. Smith, H. K. Wong, M. L. Goldstein and B. H. Mauk, Spring Meeting of the American Geophysical Union (Baltimore), May 1994. (*Eos Transactions, American Geophysical Union*, **75** Supplement, 273, 1994.)

50. "The North-South Asymmetry of the Interplanetary Magnetic Helicity," C. W. Smith and J. W. Bieber, Second Pioneer-Voyager Symposium on Energetic Particles and Fields in the Outer Heliosphere (Durham, New Hampshire), June 1994.

51. "First Results from the WIND Magnetic Field Investigation," R. P. Lepping et al. (presented by R. P. Lepping), Spring Meeting of the American Geophysical Union

(Baltimore), May 1995. (*Eos Transactions, American Geophysical Union*, **76** Supplement, S218, 1995.)

52. "Radial Evolution of the Energy Density of Solar Wind Fluctuations," G. P. Zank, W. H. Matthaeus and C. W. Smith (presented by G. P. Zank), Eighth International Solar Wind Conference (Dana Point, California), June 1995.

53. "North-South Asymmetry of the Interplanetary Magnetic Helicity," C. W. Smith and J. W. Bieber, Eighth International Solar Wind Conference (Dana Point, California), June 1995.

54. "Role of CMEs in IMF Winding Statistics," C. W. Smith and J. L. Phillips, Eighth International Solar Wind Conference (Dana Point, California), June 1995.

55. "Radial Evolution of the Energy Density of Solar Wind Fluctuations," G. P. Zank, W. H. Matthaeus and C. W. Smith (presented by G. P. Zank), IAGA, International Union of Geodesy and Geophysics 21st General Assembly (Boulder, Colorado), July 1995.

56. "The Space Physics Data System – Cosmic and Heliospheric Nodes," T. L. Garrard et al. (presented by T. L. Garrard), 24th International Cosmic Ray Conference (Rome, Italy), September 1995.

57. "The Role of CMEs and Interplanetary Shocks in IMF Statistics and Solar Magnetic Flux Ejection," C. W. Smith and J. L. Phillips, Spring Meeting of the American Geophysical Union (Baltimore), May 1996. (*Eos Transactions, American Geophysical Union*, **77** Supplement, S206, 1996.)

58. "AIC Instability and Solar Wind Heating Due to Interstellar Pickup Ions," N. F. Otani, P. C. Gray, J. D. Richardson, J. L. Phillips, C. W. Smith and W. H. Matthaeus (presented by J. D. Richardson), Spring Meeting of the American Geophysical Union (Baltimore), May 1996. (*Eos Transactions, American Geophysical Union*, **77** Supplement, S211, 1996.)

59. "Evolution of Turbulent Magnetic Fluctuation Power with Heliospheric Distance," G. P. Zank, W. H. Matthaeus and C. W. Smith (presented by G. P. Zank), Spring Meeting of the American Geophysical Union (Baltimore), May 1996. (*Eos Transactions, American Geophysical Union*, **77** Supplement, S226, 1996.)

60. "The Properties of CMEs and Interplanetary Shocks and Their Role in the Measurements of Solar Magnetic Flux Ejection," C. W. Smith and J. L. Phillips, Chapman Conference on Coronal Mass Ejections: Causes and Consequences (Bozeman, Montana), August 1996.

61. "Thermal Anisotropies in the Solar Wind: Evidence of Heating by Interstellar Pickup Ions?," J. D. Richardson, J. L. Phillips, C. W. Smith and P. C. Gray, W. R. Webber Symposium on Cosmic Rays in the Heliosphere and Galaxy (Durham, New Hampshire), October 1996.

62. "Real Time Solar Wind Data from the Advanced Composition Explorer," R. A. Mewaldt, R. Conde, R. E. Gold, W. C. Feldman, C. W. Smith and R. D. Zwickl (presented by R. A. Mewaldt), Fall Meeting of the American Geophysical Union (San Francisco), December 1996. (*Eos Transactions, American Geophysical Union*, **77** (No. 46) Supplement, F531, 1996.)

63. "Dynamics of the Solar Wind Dissipation Range at 1 AU," R. J. Leamon, N. F. Ness and C. W. Smith (presented by R. J. Leamon), Fall Meeting of the American Geophysical Union (San Francisco), December 1996. (*Eos Transactions, American Geophysical Union*, **77** (No. 46) Supplement, F569, 1996.)

64. "Dynamics of the Solar Wind Dissipation Range at 1 AU," R. J. Leamon, C. W. Smith, N. F. Ness, W. H. Matthaeus and H. K. Wong (presented by R. J. Leamon), Spring Meeting of the American Geophysical Union (Baltimore), May 1997. (*Eos Transactions, American Geophysical Union*, **78** (No. 17) Supplement, S251, 1997.)

65. "Dynamical Age of Solar Wind Turbulence," C. W. Smith, W. H. Matthaeus, G. P. Zank and S. Oughton, Spring Meeting of the American Geophysical Union (Baltimore), May 1997. (*Eos Transactions, American Geophysical Union*, **78** (No. 17) Supplement, S261, 1997.)

66. "First Results from the ACE Magnetic Field Experiment," C. W. Smith, J. L'Heureux, N. F. Ness, M. A. Acuña, L. F. Burlaga, J. Scheifele, Fall Meeting of the American Geophysical Union (San Francisco), December 1997. (*Eos Transactions, American Geophysical Union*, **78** (No. 46) Supplement, F549, 1997.)

67. "Dynamics of the Solar Wind Dissipation Range at 1 AU, II: Oblique Waves and MHD Turbulence," R. J. Leamon, C. W. Smith, N. F. Ness, W. H. Matthaeus and H. K. Wong, Fall Meeting of the American Geophysical Union (San Francisco), December 1997. (*Eos Transactions, American Geophysical Union*, **78** (No. 46) Supplement, F552, 1997.)

68. "Multipoint Measurements of Interplanetary Coronal Mass Ejections," T. Mulligan, C. T. Russell, B. J. Anderson, D. Lohr, D. Rust, B. A. Toth, L. J. Zanetti, M. H. Acuña, R. P. Lepping, C. W. Smith, J. T. Gosling and J. G. Luhmann, (presented by T. Mulligan), Spring Meeting of the American Geophysical Union (Boston), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S265, 1998.)

69. "Damping of Oblique Kinetic Alfven Waves as the Cause of the Interplanetary Magnetic Field Dissipation Range," R. J. Leamon, C. W. Smith, N. F. Ness and H. K. Wong (presented by R. J. Leamon), Spring Meeting of the American Geophysical Union (Boston), May 1998. (*Eos Transactions, American Geophysical Union*, **79** (No. 17) Supplement, S272, 1998.)

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73. "Dynamics of the Solar Wind Dissipation Range for Magnetic Fluctuations," R. J. Leamon, N. F. Ness, C. W. Smith and H. K. Wong (presented by R. J. Leamon), Solar Wind 9, Nantucket, October 1998.

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91. "The Dynamics of Dissipation Range Fluctuations with Application to Cosmic Ray Propagation Theory," R. J. Leamon, N. F. Ness and C. W. Smith (presented by R. J. Leamon), $26^{\underline{th}}$ International Cosmic Ray Conference, Salt Lake City, August 1999.

92. "Heating of the Solar Wind Beyond 1 AU by Turbulent Dissipation," C. W. Smith, G. P. Zank, W. H. Matthaeus and S. Oughton, $26^{\underline{th}}$ International Cosmic Ray Conference, Salt Lake City, August 1999.

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103. "Observations of very unusual solar wind on May 10-12, 1999," J. T. Steinberg, J. T. Gosling, D. J. McComas, R. M. Skoug, M. R. Aellig, A. J. Lazarus, K. I. Paularena, N. F. Ness, C. W. Smith, R. P. Lepping, A. Szabo, D. Berdichevsky, N. L. Borodkova, M. N. Nozdrachev, G. N. Zastenker and T. Nagai (presented by J. T. Steinberg), Fall Meeting of the American Geophysical Union (San Francisco), December 1999. (*Eos Transactions, American Geophysical Union*, **80** (No. 46) Supplement, F857, 1999.)

104. "Concurrent Measurements of the Interplanetary Magnetic Field From Four Spacecraft: An Investigation of Spatial Scales, Orientations, and Impact Timing," D. R. Weimer, N. C. Maynard, W. J. Burke, C. J. Farrugia, L. A. Frank, M. R. Collier, D. J. McComas, and C. W. Smith (presented by D. R. Weimer), Fall Meeting of the American Geophysical Union (San Francisco), December 1999. (*Eos Transactions, American Geophysical Union*, **80** (No. 46) Supplement, F905, 1999.)

105. "Energy Spectra and Composition of ¿ 30 keV/nucleon Ions at Interplanetary Shocks Observed at ACE and WIND," M. I. Desai, G. M. Mason, J. R. Dwyer, J. E. Mazur, T. T. von Rosenvinge, D. Berdichevsky and C. W. Smith (presented by M. I. Desai), ACE 2000 Symposium *The Acceleration and Transport of Energetic Particles Observed in the Heliosphere* (Indian Wells, California), January 2000.

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111. "Magnetic Flux Rope Convection Through the L1 Lagranian Orbit During an Upstream Energetic Ion Event, D. K. Haggerty, E. C. Roelof, C. W. Smith, N. F. Ness and R. M. Skoug (presented by D. K. Haggerty), Spring Meeting of the American Geophysical Union (Washington, DC), June 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 19) Supplement, S354, 2000.)

112. "Conditions Driving Expansion-Type CME Events," A. Reinard, S. Flanary, T. Zurbuchen, L. Fisk, G. Gloeckler, R. Skoug and C. Smith (presented by A. Reinhard), Spring Meeting of the American Geophysical Union (Washington, DC), June 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 19) Supplement, S354, 2000.)

113. "Spectral Transfer, Cyclotron Sweep, and Heating of the Solar Corona," R. J. Leamon, W. H. Matthaeus, G. P. Zank, C. W. Smith, D. J. Mullan and S. Oughton (presented by R. J. Leamon), Spring Meeting of the American Geophysical Union (Washington, DC), June 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 19) Supplement, S360, 2000.)

114. "Observations of the Three Dimensional Structure of the Interplanetary Magnetic Field from Four Spacecraft," D. M. Ober, D. R. Weimer, N. C. Maynard, W. J. Burke, C. J. Farrugia, M. R. Collier, D. J. McComas and C. W. Smith (presented by D. M. Ober), Spring Meeting of the American Geophysical Union (Washington, DC), June 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 19) Supplement, S375, 2000.)

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116. "A Look at the Modest Geomagnetic Response to the Rise of Cycle 23: Coronal Transients with Less Geoeffectiveness?," J. G. Luhmann, Y. Li, C. T. Russell, T. Mulligan, N. Arge, T. Hoeksema, C. W. Smith and D. J. McComas (presented by J. G. Luhmann), AAS Solar Physics Division Meeting (Lake Tahoe), June 2000.

117. "Fast Ejecta Observed by ACE During 1998 & 1999," L. F. Burlaga, C. W. Smith, R. M. Skoug and D. F. Webb (presented by L. F. Burlaga), SHINE 2000 Conference, June 2000.

118. "MHD-Driven Kinetic Dissipation in the Solar Wind and Corona: I. Spectral Transfer and Cyclotron Sweep," R. J. Leamon, W. H. Matthaeus, G. P. Zank, C. W. Smith, D. J. Mullan, and S. Oughton (presented by R. J. Leamon), UVCS/SOHO Science Meeting 2000 (NorthEast Harbor, Maine), September 2000.

119. "MHD-Driven Kinetic Dissipation in the Solar Wind and Corona: II. Motivations from the Solar Wind," R. J. Leamon, C. W. Smith, N. F. Ness, and W. H. Matthaeus (presented by R. J. Leamon), UVCS/SOHO Science Meeting 2000 (NorthEast Harbor, Maine), September 2000.

120. "Analysis of the Bastile Day 2000 Shock as Observed by ACE," N. F. Ness, C. W. Smith, G. P. Zank, W. K. M. Rice, L. F. Burlaga, R. M. Skoug and R. L. Tokar (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F955, 2000.)

121. "Acceleration of 3He and Heavy Ions at Interplanetary Shocks," M. I. Desai and G. M. Mason, J. R. Dwyer, J. E. Mazur, R. M. Skoug, and C. W. Smith (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F961, 2000.)

122. "Observational Test of the Heating of the Low-Latitude Solar Wind by Dissipation of Turbulent Magnetic Fluctuations," C. W. Smith, W. H. Matthaeus, G. P. Zank, N. F. Ness, S. Oughton and J. D. Richardson, Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F974, 2000.)

123. "Analysis of Magnetic Field Measurements Recorded by ACE on The Day the Solar Wind Disappeared (May 10-12, 1999)," D. J. Mullan, C. W. Smith, N. F. Ness, R. M. Skoug and J. T. Steinberg (presented by C. W. Smith), Fall Meeting of the American

Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F991, 2000.)

124. "An Investigation of the Solar Wind Propagation Delay Time Using Four Spacecraft," D. M. Ober, D. R. Weimer, N. C. Maynard, C. J. Farrugia, M. R. Collier, D. J. McComas, and C. W. Smith (presented by D. M. Ober), Fall Meeting of the American Geophysical Union (San Francisco, California), December 2000. (*Eos Transactions, American Geophysical Union*, **81** (No. 48) Supplement, F999, 2000.)

125. "Acceleration of 3He and Heavy Ions at Interplanetary Shocks," M. I. Desai, G. M. Mason, J. R. Dwyer, J. E. Mazur C. W. Smith, R. M. Skoug, and J. T. Gosling (presented by M. I. Desai), Joint SOHO-ACE Workshop 2001 (Bern, Switzerland), March 2001.

126. "April 2000 Storm: Analysis of the Driver and Global Response," K. E. J. Huttenen, H. E. J. Koskinen, M. Palmroth, A. Pulkkinen, T. I. Pulkkinen, J. A. Slavin, A. Lazarus, D. J. McComas, C. W. Smith, and R. Schwenn (presented by K. E. J. Huttenen), European Geophysical Society Meeting, March 2001.

127. "Predicted Timing for the Turn-on of Radiation in the Outer Heliosphere due to the Bastille Day Shock," W. K. Rice, G. P. Zank, C. W. Smith, I. H. Cairns, J. W. Bieber, and R. M. Skoug (presented by G. P. Zank), Spring Meeting of the American Geophysical Union (Boston, Massachusetts), June 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 20) Supplement, S311, 2001.)

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130. "SEP Fe Charge State in He3-Rich Interplanetary Shock Events," M. A. Popecki, M. I. Desai, R. M. Skoug, C. W. Smith, E. Moebius, A. B. Galvin, L. M. Kistler, and B. Klecker (presented by M. A. Popecki), Spring Meeting of the American Geophysical Union (Boston, Massachusetts), June 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 20) Supplement, S336, 2001.)

131. "The Day the Solar Wind Disappeared: Refraction and Dissipation of Magnetic Fluctuations," D. J. Mullan, C. W. Smith, N. F. Ness, R. M. Skoug and J. T. Steinberg (presented by D. J. Mullan), Joint AAS/Solar Physics Division and Spring Meeting of the American Geophysical Union (Boston, Massachusetts), June 2001.

(*Eos Transactions, American Geophysical Union*, **82** (No. 20) Supplement, S401, 2001.)

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134. "Acceleration of 3HE and Heavy Ions at Interplanetary Shocks," M. I. Desai, G. M. Mason, J. R. Dwyer, J. E. Mazur, C. W. Smith, R. M. Skoug (presented by M. I. Desai), $27^{\underline{th}}$ International Cosmic Ray Conference (Hamburg, Germany), August 2001.

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137. "The Coronal and Interplanetary Context of Geoeffective ICMEs," J. G. Luhmann, Y. Li, C. T. Russell, T. Mulligan, N. Arge, D. Odstrcil, J. T. Hoeksema, X.-P. Zhao, N. B. Rich, D. J. McComas, C. W. Smith (presented by J. G. Luhmann), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SH12B-0752, 2001.)

138. "The Seed Population for Energetic (>50 keV/nucleon) Ions Accelerated at Interplanetary Shocks," M. I. Desai, G. M. Mason, J. R. Dwyer, J. E. Mazur, C. W. Smith, R. M. Skoug (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SH12C-02, 2001.)

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140. "Energetic Storm Particle Events Observed on ACE from September 1997 to December 2000," G. C. Ho, D. Lario, R. B. Decker, C. W. Smith and R. M. Skoug (presented by G. C. Ho), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SH12C-08, 2001.)

141. "Cluster Magnetic Field Observations of the Solar Wind and Cluster/ACE Observations of the Solar Wind – Magnetosphere Interaction," J. P. Eastwood, A. Balogh, M. W. Dunlop, C. W. Smith, and T. S. Horbury (presented by A. Balogh), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SM22A-0778, 2001.)

142. "Local Heliospheric Current Sheet Structure from Two-Point Measurements," N. U. Crooker, S. W. Kahler, D. E. Larson, J. T. Gosling, R. P. Lepping, and C. W. Smith (presented by N. U. Crooker), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SH32A-0726, 2001.)

143. "ACE Observations of the Bastille Day 2000 Interplanetary Disturbances," C. W. Smith, N. F. Ness, L. F. Burlaga, R. M. Skoug, D. J. McComas, T. H. Zurbuchen, G. Gloeckler, D. K. Haggerty, R. E. Gold, M. I. Desai, G. M. Mason, J. R. Dwyer, M. A. Popecki, E. Möbius, C. M. S. Cohen, R. A. Leske, Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SH41B-0750, 2001.)

144. "Prediting Propagation Timing Delays in the Interplanetary Magnetic Field," D. R. Weimer, D. Ober, N. C. Maynard, W. J. Burke, M. R. Collier, D. J. McComas, and C. W. Smith (presented by D. R. Weimer), Fall Meeting of the American Geophysical Union (San Francisco), December 2001. (*Eos Transactions, American Geophysical Union*, **82** (No. 47), Supplement, SM51D-07, 2001.)

145. "New Magnetic Cycle ICMEs: Do They Fit the Expected Interplanetary Field Polarity Pattern?", J. G. Luhmann, Y. Li, C. W. Smith, T. Mulligan, and C. T. Russell (presented by J. G. Luhmann), First STEREO Workshop *The 3-D Sun and Inner Heliosphere* (Paris), March 2002.

146. "Topology of Magnetic Ejecta at 1 AU", Q. Hu, C. W. Smith, N. F. Ness, N. U. Crooker (presented by Q. Hu), Spring Meeting of the American Geophysical Union (Washington), June 2002.

147. "The Geometry of Turbulent Magnetic Fluctuations at High Heliographic Latitudes," C. W. Smith, Solar Wind 10 (Nice, Italy), SIII-9, June 2002.

148. "Day the Solar Wind Almost Disappeared: Magnetic Field Fluctuations, Wave Refraction and Dissipation," C. W. Smith, D. J. Mullan, N. F. Ness, R. M. Skoug, and J. Steinberg, Solar Wind 10 (Nice, Italy), SIII-36, June 2002.

149. "Electric Field Statistics in the Solar Wind," B. Breech, L. J. Milano, W. H. Matthaeus, and C. W. Smith (presented by W. H. Matthaeus), Solar Wind 10 (Nice, Italy), SIII-51, June 2002.

150. "Cross Helicity Correlations in the Solar Wind," S. Dasso, L. J. Milano, W. H. Matthaeus, and C. W. Smith (presented by S. Sasso), Solar Wind 10 (Nice, Italy), SIII-52, June 2002.

151. "ACE Observations of Energetic Particles Associated with Transient Interplanetary Shocks," D. Lario, G. C. Ho, R. B. Decker, E. C. Roelof, M. I. Desai, and C. W. Smith (presented by D. Lario), Solar Wind 10 (Nice, Italy), SIV-29, June 2002.

152. "ACE Observations of the Bastille Day 2000 Interplanetary Disturbances," C. W. Smith, N. F. Ness, L. F. Burlaga, R. M. Skoug, D. J. McComas, T. H. Zurbuchen, G. Gloeckler, D. K. Haggerty, R. E. Gold, M. I. Desai, G. M. Mason, J. E. Mazur, J. R. Dwyer, M. A. Popecki, E. Möbius, C. M. S. Cohen, and R. A. Leske, Solar Wind 10 (Nice, Italy), SV-29, June 2002.

153. "The Transition of Interplanetary Shocks Through the Magnetosheath," A. Szabo, C. W. Smith, and R. M. Skoug (presented by A. Szabo), Solar Wind 10 (Nice, Italy), SV-39, June 2002.

154. "Evidence for ICME Interaction and Source Dynamics at 1 AU," C. W. Smith, R. M. Skoug, T. H. Zurbuchen, and D. K. Haggerty, SHINE 2002 (Banff, Canada), August 2002.

155. "Distortions of the Magnetosphere: Geosynchronous Lobe Encounters," M. F. Thomsen, R. M. Skoug, C. W. Smith and D. M. Ober (presented by M. F. Thomsen), Thirty-Fourth COSPAR Scientific Assembly (Houston, Texas), October 2002.

156. "Space Weather During Mid-April 2002: ACE Data," T. H. Zurbuchen, C. W. Smith, R. Skoug, R. A. Mewaldt, J. E. Mazur, R. A. Leske, D. K. Haggerty, and C. M. Cohen (presented by T. H. Zurbuchen), Thirty-Fourth COSPAR Scientific Assembly (Houston, Texas), October 2002.

157. "A Comparison of Suprathermal Pickup Ion Tails with Solar Wind Conditions at 1 AU," L. Saul, E. Mbius, C. Smith, H. Grnwaldt, F. Ipavich, R. Lepping, B. Klecker, and P. Bochsler (presented by L. Saul), Thirty-Fourth COSPAR Scientific Assembly (Houston, Texas), October 2002.

158. "Wave Refraction During the May 2002 Rarefaction Event," C. W. Smith, D. J. Mullan, N. F. Ness, and R. M. Skoug, Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

159. "Plasma and Magnetic Field Observations Related to the Solar Wind Density Minimum: May 23 through May 25, 2002," A. Lazarus, J. C. Kasper, R. M. Skoug, C. W. Smith (presented by A. Lazarus), Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

160. “ACE observations of Energetic Particles Associated with Transient Interplanetary Shocks,” D. Lario, G. C. Ho, R. B. Decker, E. C. Roelof, Q. Hu, C. W. Smith, and M. I. Desai (presented by D. Lario), Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

161. “A Reassessment of Turbulent Heating Due to Interstellar Pickup Protons in the Outer Heliosphere,” P. A. Isenberg, C. W. Smith, and W. H. Matthaeus (presented by P. A. Isenberg), Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

162. “Interplanetary Magnetic Field Connection to the L1 Lagrangian Orbit During Upstream Energetic Ion Events,” D. K. Haggerty, E. C. Roelof, C. W. Smith, N. F. Ness, R. L. Tokar, and R. M. Skoug (presented by D. K. Haggerty), Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

163. “One-Point Electric Field Statistics in the Solar Wind,” B. Breech, L. Milano, C. W. Smith, W. H. Matthaeus (presented by B. Breech), Fall Meeting of the American Geophysical Union (San Francisco), December 2002.

164. “Probing Diffusion Parameters of Suprathremal and Energetic Ions in the Bastille Day CME Event,” R. Kallenbach, K. Bamert, N. F. Ness, C. W. Smith, M. Hilchenbach, R. F. Wimmer-Schweingruber, and B. Klecker (presented by R. Kallenbach), Spring Meeting of the American Geophysical Union (Nice, France), April 2003.

165. “Proton Beam Instabilities Upstream of a CME Shock: SOHO/CELIAS/HSTOF, ACE/MAG and Geotail/MGF Data,” K. Bamert, R. Kallenbach, N. F. Ness, C. W. Smith, T. Terasawa, M. Hilchenbach, R. F. Wimmer-Schweingruber, and B. Klecker (presented by K. Bamert), Spring Meeting of the American Geophysical Union (Nice, France), April 2003.

166. “A Survey of Shocks and Related Energetic Particle Increases Observed by Instruments on ACE,” C. M. S. Cohen, G. C. Ho, R. A. Mewaldt, R. M. Skoug, C. W. Smith, and A. Szabo (presented by C. M. S. Cohen), Spring Meeting of the American Geophysical Union (Nice, France), April 2003.

167. “Reconstruction of Multi-Tube Topology of Magnetic Ejecta at 1 AU,” Q. Hu, C. W. Smith, N. F. Ness, and R. M. Skoug (presented by N. F. Ness), Spring Meeting of the American Geophysical Union (Nice, France), April 2003.

168. “Energetic Electrons Associated with Transient Interplanetary Shocks: Weak Interaction,” Ho, G. C., D. Lario, R. B. Decker, E. C. Roelof, M. I. Desai, and C. W. Smith (presented by G. C. Ho), $28^{\underline{th}}$ International Cosmic Ray Conference (Tsukuba, Japan), August 2003.

169. “Current Sheets and Magnetic Holes in the Solar Wind (Magnetic Reconnection?),” L. F. Burlaga, R. P. Lepping, K. W. Ogilvie, and C. W. Smith (presented by L. F. Burlaga), Interrelationship Between Plasma Experiments in Laboratory and Space (Whitefish, Montana), 2003.

170. "Multiple Flux-Rope Magnetic Ejecta in the Solar Wind," Q. Hu, C. W. Smith, N. F. Ness, R. M. Skoug, and D. K. Haggerty (presented by C. W. Smith), ACE/RHESSI/WIND Workshop (Taos), October 2003.

171. "Cross Helicity Correlations in the Solar Wind," L. J. Milano, S. Dasso, W. H. Matthaeus, and C. W. Smith (presented by L. J. Milano), Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH11B-04, 2003.)

172. "Analysis of High-Latitude IMF Turbulence," C. W. Smith, Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH11B-05, 2003.)

173. "Induced Electric Field and Cross Helicity in Solar Wind Fluctuations," B. Breech, W. H. Matthaeus, L. J. Milano and C. W. Smith (presented by W. H. Matthaeus), Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH11B-0155, 2003.)

174. "Hydromagnetic Wave Excitation at a Heliospheric Shock," R. Kallenbach, K. Bamert, N. F. Ness, C. W. Smith, M. Hilchenbach, and V. Izmodenov, (presented by R. Kallenbach), (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH12C-02, 2003.)

175. "Orientations of Correlated Wind and ACE Features," A. J. Lazarus, J. Ashmall, J. C. Kasper, R. M. Skoug, J. T. Steinberg, K. W. Ogilvie, A. Szabo, C. W. Smith, Q. Hu (presented by A. J. Lazarus) Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH21B-0152, 2003.)

176. "Multiple Magnetic Flux-Rope Ejecta in the Solar Wind: Separated Flux Ropes," Q. Hu, C. W. Smith, and N. F. Ness (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SH22A-0191, 2003.)

177. "A Taxonomy of the Magnetosphere's Reaction to Solar-Wind Driving," J. E. Borovsky, R. M. Skoug, and C. W. Smith (presented by J. E. Borovsky), Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SM42D-01, 2003.)

178. "Solar Wind Observations During the Oct-Nov, 2003 Storms," R. M. Skoug, J. Steinberg, J. Gosling, D. McComas, C. W. Smith, N. F. Ness, Q. Hu, and L. F. Burlaga, Fall Meeting of the American Geophysical Union (San Francisco), December 2003. (*Eos Transactions, American Geophysical Union*, **84**(46), Fall Meeting Supplement, Abstract SM51F-0607, 2003.)

179. "Multiscale Structure of the Magnetic Field and Speed at 1 AU During the Declining Phase of Solar Cycle 23," L. F. Burlaga, C. W. Smith, and D. J. McComas (presented by L. F. Burlaga), Sun-Earth Connections: Multiscale Coupling in Sun-Earth Processes, February 2004.

180. "The Solar Ejecta from October/November 2003," C. W. Smith, R. M. Skoug, T. H. Zurbuchen, Spring Meeting of the New England Chapter of the American Physical Society (Exeter, NH), March 2004.

181. "Heating the Outer Heliosphere by Pickup Ions," C. W. Smith, P. A. Isenberg, W. H. Matthaeus, S. Oughton, J. D. Richardson, and G. P. Zank, Spring Meeting of the New England Chapter of the American Physical Society (Exeter, NH), March 2004.

182. "Heliospheric Response to the Solar Events of October and November, 2003," C. T. Russell, M. Cartwright, P. J. Chi, G. Delory, M. Dougherty, D. Lario, J. G. Luhmann, R. Skoug, and C. W. Smith (presented by C. T. Russell), European Geophysical Union (Nice), April 2004.

183. "Solar Wind Heating by Pickup Protons," C. W. Smith, P. A. Isenberg, W. H. Matthaeus, and J. D. Richardson, Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH13A-06, 2004.)

184. "Fast, Hot and Furious: The October/November CMEs Observed by ACE and WIND," T. H. Zurbuchen, G. Gloeckler, F. Ipavich, J. Raines, C. W. Smith, and L. A. Fisk (presented by T. H. Zurbuchen), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH32A-02, 2004.)

185. "Extremely Fast Solar Wind Observations During October-November, 2003," R. M. Skoug, J. T. Steinberg, J. T. Gosling, D. J. McComas, C. W. Smith, N. F. Ness, Q. Hu, L. F. Burlaga (presented by J. T. Steinberg), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH32A-03, 2004.)

186. "Three-Dimensional Power Spectra in the Solar Wind at 1 AU," S. Dasso, L. J. Milano, W. H. Matthaeus, and C. W. Smith (presented by S. Dasso), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH41A-10, 2004.)

187. "Shock Evolution During the 29 October - 06 November 2003 Period of Solar Flare-CME-Shock-Geomagnetic Storms," C.-C. Wu, S. T. Wu, M. Dryer, C. D. Fry, D. Berdichevsky, Z. Smith, N. Gopalswamy, T. H. Zurbuchen, C. W. Smith, and T. Detman (presented by C.-C. Wu), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH51A-14, 2004.)

188. "IMF Coherence Lengths During the Events of October-November 2003," C. J. Farrugia, H. Matsui, H. Kucharek, C. W. Smith, K. Ogilvie, R. B. Torbert, R. Lepping, R. Skoug, T. Terasawa, T. Nagai, T. Mukai, and Y. Saito (presented by C. J. Farrugia), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH51A-15, 2004.)

189. "The Magnetospheric Lobe at Geosynchronous Orbit: Where, When, and How?," D. M. Ober, M. F. Thomsen, R. M. Skoug, C. W. Smith (presented by D. M. Ober), Spring Meeting of the American Geophysical Union (Montreal), May 2004. (*Eos Transactions, American Geophysical Union*, **85**(17), Joint Assembly Supplement, Abstract SH51D-04, 2004.)

190. "The October/November 2003 Solar Events: Heliospheric Disturbances," C. T. Russell, J. Luhmann, C. W. Smith, R. Skoug, M. Dougherty, D. Lario, and L. Jian (presented by C. T. Russell), SHINE 2004 (Big Sky, Montana), June 2004.

191. "The October/November 2003 Solar Events: Demonstration of how the Solar Wind Controls the Radiation Belts," M. Cartwright, C. T. Russell, R. Skoug, C. W. Smith, S. Kanakal and L. Jian (presented by M. Cartwright), SHINE 2004 (Big Sky, Montana), June 2004.

192. "Excitation of Ion Whistler Waves Upstream of an Interplanetary Traveling Shock," R. Kallenbach,K. Bamert, C. W. Smith,M. Hilchenbach, and R. F. Wimmer-Schweingruber (presented by R. Kallenbach), Thirty-Fifth COSPAR Scientific Assembly (Paris), July 2004.

193. "Spectral Properties of Heavy Ions Associated with Interplanetary Shocks near 1 AU," M. I. Desai, G. M. Mason, C. M. S. Cohen, M. E. Wiedenbeck, J. E. Mazur, J. R. Dwyer, Q. Hu, C. W. Smith, and R. M. Skoug (presented by M. I. Desai), Thirty-Fifth COSPAR Scientific Assembly (Paris), July 2004.

194. "The Energetic Storm Particle Event of October 24, 2003," D. Lario, G. C. Ho, R. B. Decker, M. I. Desai, Q. Hu, and C. W. Smith (presented by D. Lario), Thirty-Fifth COSPAR Scientific Assembly (Paris), July 2004.

195. "STEREO and ACE: Coordinated Science," C. M. S. Cohen, R. A. Mewaldt, G. C. Ho, G. M. Mason, M. A. Popecki, R. M. Skoug, C. W. Smith, E. C. Stone, and T. H. Zurbuchen (presented by C. M. S. Cohen), Thirty-Fifth COSPAR Scientific Assembly (Paris), July 2004.

196. "Survey of Intense Sun-Earth Connection Events (1995-2003)," C. J. Farrugia, H. Matsui, H. Kucharek, V. K. Jordanova, R. B. Torbert, K. W. Ogilvie, D. B. Berdichevsky, C. W. Smith, and R. M. Skoug (presented by C. J. Farrugia), Thirty-Fifth COSPAR Scientific Assembly (Paris), July 2004.

197. "Global Magnetospheric Distortions Through the Solar Cycle," M. F. Thomsen, R. M. Skoug, C. W. Smith, and D. M. Ober (presented by M. F. Thomsen), Western Pacific Meeting of the American Geophysical Union (Honolulu), August 2004.

198. "Direct Evidence for Magnetic Reconnection in the Solar Wind Near 1 AU," J. T. Gosling, R. M. Skoug, D. J. McComas, and C. W. Smith (presented by J. T. Gosling), Huntsville 2004 Workshop – Challenges to Modeling the Sun-Earth System (Huntsville), October 2004.

199. "Direct Evidence for Magnetic Reconnection in the Solar Wind Near 1 AU," J. T. Gosling, R. M. Skoug, D. J. McComas, and C. W. Smith (presented by J. T. Gosling), Sun-Earth Connection Physics: The GeoImpact of CMEs, CIRs, and Ordinary Solar Wind (Merida, Mexico), November 2004.

200. "Probing the Dayside Magnetosphere: Measurements by ACE Soon After Launch, August 25, 1997," H. Briggs, T. Glines, C. J. Farrugia, V. K. Jordanova, and C. W. Smith (presented by H. Briggs), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract ED43A-0271, 2004.)

201. "Anisotropy of Solar Wind Fluctuations: Fast Wind vs Slow Wind," S. Dasso, L. J. Milano, W. H. Matthaeus, and C. W. Smith (presented by L. Milano), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH33B-08, 2004.)

202. "Multi-Spacecraft Observations of Energetic Heavy Ions Accelerated by Interplanetary Shocks Near Earth," M. I. Desai, G. M. Mason, G. Ho, D. Lario, J. E. Mazur, J. R. Dwyer, Q. Hu, C. W. Smith, and J. C. Kasper (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH21C-0433, 2004.)

203. "Turbulence and the Third Moment of Fluctuations: Kolmogorov's 4/5 Law and its MHD Analogues in the Solar Wind," M. A. Forman, C. W. Smith, and B. MacBride (presented by M. A. Forman), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0282, 2004.)

204. "Direct Evidence for Magnetic Reconnection in the Solar Wind Near 1 AU," J. T. Gosling, R. M. Skoug, D. J. McComas, and C. W. Smith (presented by J. T. Gosling), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH33B-06, 2004.)

205. "Dissipation Range Observations in Interplanetary Magnetic Clouds," K. Hamilton, C. W. Smith, and R. J. Leamon (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0289, 2004.)

206. "The Turbulent Correlation Length in the Distant Solar Wind," P. A. Isenberg and C. W. Smith (presented by P. A. Isenberg), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0286, 2004.)

207. "Project SMART at the University of New Hampshire: Integrating Space and Environmental Sciences Studies," V. Jordanova, B. Rock, C. Farrugia, C. Smith, H. Kucharek, P. Puhl-Quinn, B. Vasquez, J. Raeder, and J. Dorelli (presented by V. Jordanova), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract ED51B-0024, 2004.)

208. "An Extension of the Quasi-Linear Theory on Shock Acceleration to Low-Energy Ions," R. Kallenbach, K. Bamert, R. F. Wimmer-Schweingruber, and C. W. Smith (presented by R. Kallenbach), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0280, 2004.)

209. "Enhancements of He+ at Interplanetary Disturbances: A Survey," H. Kucharek, E. Moebius, Y. Lu, C. Smith, B. Klecker, C. Farrugia, M. A. Popecki, A. B. Galvin, M. Hilchenbach, and P. Bochsler (presented by H. Kucharek), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH31A-1149, 2004.)

210. "Correlation of Solar Wind Features Observed from Spacecraft Well-Separated in YGSE," A. Lazarus, J. Kasper, Ashmall, R. M. Skoug, J. Steinberg, K. Ogilvie, A. Szabo, C. W. Smith, and Q. Hu (presented by A. Lazarus), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH21C-0436, 2004.)

211. "Effect of Latitudinal Dependence of Boundary Conditions on Transport of Turbulence in the Heliosphere," W. H. Matthaeus, S. Parhi, B. Breech, J. Minnie, J. W. Bieber, R. A. Burger, S. Oughton, C. W. Smith, and P. A. Isenberg (presented by W. H. Matthaeus) Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0285, 2004.)

212. "A Mechanism of Dissipation of the Perpendicular Turbulent Cascade in the Solar Wind," S. A. Markovskii, B. J. Vasquez, C. W. Smith, and J. V. Hollweg (presented by S. A. Markovskii), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH44A-02, 2004.)

213. "Preliminary Results on the Evaluation of 3D Correlation Functions from ACE and WIND Simultaneous Data," L. J. Milano, W. H. Matthaeus, and C. W. Smith (pre-

sented by L. Milano), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH12A-05, 2004.)

214. "Four-Spacecraft Observations of Delayed Energetic-Particle Events Near Earth," M. Neugebauer, C. W. Smith, and J. Giacalone (presented by M. Neugebauer), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH12A-08, 2004.)

215. "Timing Accuracy and Variability of the Planar Propagation of Magnetic Field Structures in the Solar Wind," D. M. Ober, D. R. Weimer, N. C. Maynard, M. R. Collier, D. J. McComas, C. W. Smith (presented by D. M. Ober) Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH21C-0439, 2004.)

216. "Solar Wind Heating: Critical Tests of a Turbulence Theory," C. W. Smith, P. A. Isenberg, W. H. Matthaeus, and J. D. Richardson (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0288, 2004.)

217. "Space Weather Drivers in the ACE Era," M. F. Vogt, P. Puhl-Quinn, V. K. Jordanova, C. W. Smith, and C. M. S. Cohen (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH53B-0323, 2004.)

218. "Alpha Particle Heating in the Solar Wind: ACE Observations," S. P. Gary, C. W. Smith, and R. M. Skoug, Fall Meeting of the American Geophysical Union (San Francisco), December 2004. (*Eos Transactions, American Geophysical Union*, **85**(47), Fall Meeting Supplement, Abstract SH51C-0278, 2004.)

219. "Heliospheric Current and Plasma Sheet: Dependence of Thickness on Distance," X. Zhou, E. Smith, D. Winterhalter, D. McComas, R. Skoug, B. Goldstein and C. Smith (presented by X. Zhou), European Geophysical Union, April 2005.

220. "Spectra and Composition of Suprathermal Ions Associated with the November 4-6, 2003 Interplanetary Coronal Mass Ejection Event: SOHO/CELIAS/HSTOF Data," K. Bamert, R. F. Wimmer-Schweingruber, R. Kallenbach, M. Hilchenbach, and C. W. Smith (presented by K. Bamert), European Geophysical Union, April 2005.

221. "Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons with a Variable Solar Wind Speed," P. A. Isenberg, C. W. Smith, W. H. Matthaeus, and J. D. Richardson (presented by P. A. Isenberg), Spring Meeting of the American Geophysical Union (New Orleans), May 2005. (*Eos Transactions, American Geophysical Union*, **86**(18), Joint Assembly Supplement, Abstract SH23A-04, 2005.)

222. "Magnetic Disconnection From the Sun: Observations of a Reconnection Exhaust in the Solar Wind at the Heliospheric Current Sheet," J. T. Gosling, R. M. Skoug, D. J. McComas, and C. W. Smith (presented by J. T. Gosling), Spring Meeting of the American Geophysical Union (New Orleans), May 2005. (*Eos Transactions, American Geophysical Union*, **86**(18), Joint Assembly Supplement, Abstract SH33A-01, 2005.)

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226. "Variance Anisotropy in the Inertial Range," C. W. Smith, K. Hamilton, and B. J. Vasquez, Solar Wind 11 (Whistler, Canada), June 2005.

227. "Dissipation Range Spectral Characteristics at 1 AU," K. Hamilton, C. W. Smith, and R. J. Leamon, Solar Wind 11 (Whistler, Canada), June 2005.

228. "Turbulence and the Third Moment of Fluctuations: Kolmogorov's 4/5 Law and its MHD Analogues in the Solar Wind," M. A. Forman, C. W. Smith, and B. MacBride (presented by M. A. Forman), Solar Wind 11 (Whistler, Canada), June 2005.

229. "Cross Helicity and Anisotropy in Slow and Fast Solar Wind," S. Dasso, W. H. Matthaeus, L. J. Milano, and C. W. Smith (presented by S. Dasso), Solar Wind 11 (Whistler, Canada), June 2005.

230. "Morphology and Evolution of the Heliospheric Current and Plasma Sheets from 1 to 5 AU," X. Zhou, E. Smith, D. Winterhalter, D. McComas, R. Skoug, B. Goldstein and C. Smith (presented by X. Zhou), Solar Wind 11 (Whistler, Canada), June 2005.

231. "Particle Acceleration at Quasi-Perpendicular Interplanetary Shocks," G. P. Zank, Gang Li, and C. W. Smith (presented by G. P. Zank), Solar Wind 11 (Whistler, Canada), June 2005.

232. "Spectra and Composition of Suprathermal and Energetic Ions Aassociated with the November 2-6, 2003 Interplanetary Coronal Mass Ejection Events: SOHO / CELIAS / HSTOF and SOHO/EPHIN Data," K. Bamert, R. F. Wimmer-Schweingruber,

R. Kallenbach, M. Hilchenbach, H. Kunow, R. Mller-Mellin, A. Klassen, and C. W. Smith (presented by K. Bamert), Solar Wind 11 (Whistler, Canada), June 2005.

233. "An Extension of the Quasi-Linear Theory on Shock Acceleration to Low-Energy Ions," R. Kallenbach, K. Bamert, M. Hilchenbach, and C. W. Smith, (presented by R. Kallenbach), Solar Wind 11 (Whistler, Canada), June 2005.

234. "Sources and Acceleration of Energetic He+ in Interplanetary Space," H. Kucharek, E. Moebius, Y. Lu, C. Smith, B. Klecker, C. Farrugia, M. Popecki, A. Galvin, M. Hilchenbach, and P. Bochsler (presented by H. Kucharek), Solar Wind 11 (Whistler, Canada), June 2005.

235. "Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons Using a Variable Solar Wind Speed," P. A. Isenberg, C. W. Smith, W. H. Matthaeus, and J. D. Richardson (presented by P. Isenberg), Solar Wind 11 (Whistler, Canada), June 2005.

236. "Statistical Properties of Fast Forward Transient Interplanetary Shocks and Associated Energetic Particle Events: ACE Observations," D. Lario, C. W. Smith, and Q. Hu (presented by D. Lario), Solar Wind 11 (Whistler, Canada), June 2005.

237. "Turbulence Throughout the Heliosphere," W. H. Matthaeus, B. Breech, S. Oughton, J. Minnie, J. W. Bieber, C. W. Smith, and P. A. Isenberg (presented by W. H. Matthaeus), Solar Wind 11 (Whistler, Canada), June 2005.

238. "Correlation of Speed and Temperature in the Solar Wind," W. H. Matthaeus, H. Elliott, D. McComas, and C. W. Smith (presented by W. H. Matthaeus), Solar Wind 11 (Whistler, Canada), June 2005.

239. "Dissipation of the Perpendicular Turbulent Cascade in the Solar Wind," S. Markovskii, B. Vasquez, C. Smith, and J. Hollweg (presented by S. Markovskii), Solar Wind 11 (Whistler, Canada), June 2005.

240. "Observations of Solar Wind Features from Spacecraft Separated in Heliolongitude," A. J. Lazarus, J. Kasper, J. Ashmall, R. Skoug, J. Steinberg, K. Ogilvie, A. Szabo, C. Smith, and Q. Hu (presented by A. J. Lazarus), Solar Wind 11 (Whistler, Canada), June 2005.

241. "The Hemispheric Model for Pitch Angle Scattering of Pickup Ions: A Comparison with SOHO/CTOF Observations and IMF Wave-Power from WIND," L. Saul, E. Möbius, P. Isenberg, C. W. Smith (presented by L. Saul), Solar Wind 11 (Whistler, Canada), June 2005.

242. "Unraveling Space and Time in the Solar Wind: Preliminary Results on the 3D Magnetic Autocorrelation from ACE and WIND Simultaneous Data," J. Weygand, W. H. Matthaeus, S. Dasso, L. J. Milano, M. G. Kivelson, C. W. Smith (presented by J. Weygand), Solar Wind 11 (Whistler, Canada), June 2005.

243. "Energetic Particle Responses to Interplanetary Shocks Observed by ACE," C. M. S. Cohen, R. A. Mewaldt, C. W. Smith, R. M. Skoug, G. C. Ho, A. Szabo (presented by C. M. S. Cohen), Twenty-Ninth International Cosmic Ray Conference (Pune, India), August 2005.

244. "Solar Probe: Report of the Science and Technology Definition Team," D. J. McComas, L. W. Acton, M. Balat-Pichelin, V. Bothmer, R. B. Dirling, Jr., W. C. Feldman, G. Gloeckler, S. R. Habbal, D. M. Hassler, I. Mann, W. H. Matthaeus, R. L. McNutt, Jr., R. A. Mewaldt, N. Murphy, L. Ofman, E. C. Sittler, Jr., C. W. Smith, M. Velli, and T. H. Zurbuchen (presented by R. L. McNutt), *Solar and Space Physics and the Vision for Space Exploration* (Wintergreen Resort, VA), October 2005.

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246. "Ion Acceleration and Wave-Particle Interaction at the Interplanetary Shocks Associated with the Halloween 2003 and the 20 January 2005 Events: SOHO/HSTOF, SOHO/EPHIN, and ACE/MAG Observations," K. Bamert, R. F. Wimmer-Schweingruber, R. Kallenbach, M. Hilchenbach, R. Muller-Mellin, A. Klassen, and C. W. Smith (presented by R. Kallenbach), Fall Meeting of the American Geophysical Union (San Francisco), December 2005. (*Eos Transactions, American Geophysical Union*, **86**(52), Fall Meeting Supplement, Abstract SH23A-0322, 2005.)

247. "Survey of Interplanetary Shock Characteristics," J. C. Kasper, A. J. Lazarus, A. Szabo, K. W. Ogilvie, R. Skoug, J. T. Steinberg, and C. W. Smith (presentd by J. C. Kasper), Fall Meeting of the American Geophysical Union (San Francisco), December 2005. (*Eos Transactions, American Geophysical Union*, **86**(52), Fall Meeting Supplement, Abstract SH52A-04, 2005.)

248. "Three-Spacecraft Detections of a Magnetic Reconnection X-Line Extending More Than 390 Earth Radii in the Solar Wind," T. D. Phan, J. T. Gosling, M. S. Davis, R. M. Skoug, M. Oieroset, R. P. Lin, R. Lepping, D. J. McComas, C. W. Smith, H. Reme, and A. Balogh (presented by T. D. Phan), Fall Meeting of the American Geophysical Union (San Francisco), December 2005. (*Eos Transactions, American Geophysical Union*, **86**(52), Fall Meeting Supplement, Abstract SM13C-05, 2005.)

249. "Directional Discontinuities in the Solar Wind," B. Vasquez, D. Haggerty, T. Zurbuchen, and C. Smith (presented by B. Vasquez), Spring Meeting of the American Geophysical Union (Baltimore), May 2006.

250. "On the Acceleration of Helium in the Heliosphere," Kucharek, H., E. Moebius, F. Allegrini, M. Desai, C. Smith, B. Klecker, C. Farrugia, M. Popecki, A. Galvin, and P. Bochsler, Spring Meeting of the American Geophysical Union (Baltimore), May 2006.

251. "Identifying Directional Discontinuities in the Solar Wind," B. Vasquez, D. Haggerty, and C. Smith (presented by B. Vasquez), Solar Physics Division of the American Astronomical Society (Durham), June 2006.

252. "Interplanetary Anisotropic Fluctuation Spectra: Testing Weakly Compressible MHD Theory with ACE Data," A. Bhattacharjee, C. Smith, and B. Vasquez (presented by A. Bhattacharjee), Solar Physics Division of the American Astronomical Society (Durham), June 2006.

253. "Two New Results in Solar Wind Turbulence," C. W. Smith, B. J. Vasquez, K. Hamilton, and R. J. Leamon, Solar Physics Division of the American Astronomical Society (Durham), June 2006.

254. "Observations of Solar Wind Fluctuations: Anisotropy Properties," S. Dasso, W. H. Matthaeus, L. J. Milano, and C. W. Smith (presented by S. Dasso), XXVI IAU General Assembly (Prague) August 2006.

255. "Measuring the Turbulent Cascade in the Solar Wind," B. T. MacBride, M. A. Forman, and C. W. Smith (presented by B. T. MacBride), SHINE 2006 (Midway, UT), July 2006.

256. "Automated Detection and Analysis of Interplanetary Shocks," V. S. Vorotnikov, C. W. Smith, Q. Hu, A. Szabo, R. M. Skoug, and C. M. S. Cohen (presented by C. W. Smith), SHINE 2006 (Midway, UT), July 2006.

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260. "Automated Detection and Analysis of Interplanetary Shocks with Real-Time Application," V. Vorotnikov, C. W. Smith, Q. Hu, A. Szabo, R. M. Skoug, C. M. S. Cohen (presented by C. W. Smith), 2006 Heliospheric Workshop: The Heliospheric Network (Oxnard, CA), November 2006.

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263. "Weakly Compressible MHD Turbulence in the Solar Wind: Scaling of Anisotropic Magnetic Fluctuation Spectra," A. Bhattacharjee, C. W. Smith, and B. Vasquez (presented by A. Bhattacharjee) Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH11B-03, 2006.)

264. "Turbulent Cascade Rates in the Upper Inertial Range," K. Hamilton, B. J. Vasquez, C. W. Smith, B. T. MacBride, and R. J. Leamon (presented by B. J. Vasquez), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH11B-05, 2006.)

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266. "Vector Third Moment of Turbulent MHD Fluctuations: Theory and Interpretation," M. A. Forman, B. T. MacBride, and C. W. Smith (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH12A-05, 2006.)

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268. "The November 20, 2003 Magnetic Cloud: Comparison of Two Models," C. Moestl, M. Leitner, C. J. Farrugia, Q. Hu, B. U. O. Sonnerup, and C. W. Smith (presented by C. Moestl), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH31A-0372, 2006.)

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271. "Magnetic Reconnection at the Heliospheric Current Sheet and the Formation of Closed Magnetic Field Lines in the Solar Wind," J. T. Gosling, D. J. McComas, R. M. Skoug, and C. W. Smith (presented by J. T. Gosling) Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH43C-04, 2006.)

272. "Two Point Measurements of Statistical Properties of Solar Wind Turbulence," W. H. Matthaeus, S. Dasso, J. M. Weygand, C. W. Smith and M. G. Kivelson (presented by W. H. Matthaeus), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SH43C-06, 2006.)

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275. "Two Point Measurements of Statistical Properties of Solar Wind Turbulence Using Cluster Data," W. H. Matthaeus, S. Dasso, J. M. Weygand, C. W. Smith and M. G. Kivelson (presented by W. H. Matthaeus), Fall Meeting of the American Geophysical Union (San Francisco), December 2006. (*Eos Transactions, American Geophysical Union*, **87**(52), Fall Meeting Supplement, Abstract SM51D-07, 2006.)

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VIII Conferencia Latinoamericana de Geofisica Espacial (Merida, Mexico), July 2007.

279. "Theory for the Measurement of Cascade Rates of Energy and Cross-Helicity in Axisymmetric Incompressible MHD Turbulence," M. Forman, J. Podesta, and C. Smith, APS Division of Plasma Physics (Orlando), November 2007.

280. "Measurement of Energy Cascade Rate and Dissipation Rate in the Solar Wind: Theoretical Approach Based on Third Order Moments in Axisymmetric MHD Turbulence," M. A. Forman, J. J. Podesta, and C. W. Smith (presented by J. J. Podesta), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract NG33A-01, 2007.)

281. "Technique of Measuring Taylor Microscale," P. Chuychai, J. M. Weygand, W. H. Matthaeus, S. Dasso, C. W. Smith, and M. Kivelson (presented by P. Chuychai), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH13A-1103, 2007.)

282. "Statistical Analysis of the High-Frequency Spectral Break of the Solar Wind Turbulence at 1 AU," S. Markovskii, B. Vasquez, and C. Smith (presented by S. Markovskii), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH23A-1144, 2007.)

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284. "Turbulence Transport Throughout the Heliosphere," B. Breech, W. Matthaeus, J. Minnie, J. Bieber, S. Oughton, C. Smith, and P. Isenberg (presented by B. Breech), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH23A-1150, 2007.)

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286. "Correlation of Solar Wind Features from Well-Separated Spacecraft," A. J. Lazarus, J. C. Kasper, J. Ashmall, R. M. Skoug, J. T. Steinberg, K. W. Ogilvie, A. Szabo, C. Smith, and Q. Hu (presented by A. J. Lazarus), Fall Meeting of the American

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287. "The Turbulent Cascade at 1 AU: Energy Transfer and the Third-Order Scaling for MHD," B. T. MacBride, C. W. Smith, and M. A. Forman (presented by B. T. MacBride), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH33B-05, 2007.)

288. "The Spatial Distribution of Upstream Ion Events Measured by ACE, Wind, and STEREO Near the Earth's Bow Shock," M. I. Desai, G. M. Mason, R. Muller-Mellin, and C. W. Smith (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), December 2007. (*Eos Transactions, American Geophysical Union*, **88**(52), Fall Meeting Supplement, Abstract SH52B-02, 2007.)

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290. "Preliminary Results on Shock-Associated Energetic Particle Events with Focus on Seed Populations," C. W. Smith, M. A. Lee, J. A. Tessein, V. S. Vorotnikov, D. Sodaitis, N. Leuchanka, Z. Laforet, M. Winder, D. K. Haggerty, M. Desai, Q. Hu, A. Culver, and G. Isman (presented by C. W. Smith), Spring Meeting of the American Geophysical Union (Ft. Lauderdale), May 2008. (*Eos Transactions, American Geophysical Union*, **89**(23), Spring Meeting Supplement, Abstract SH41A-01, 2008.)

291. "The Excitation of Magnetic Waves by Solar Energetic Particle Populations," C. W. Smith, M. A. Lee, J. A. Tessein, V. S. Vorotnikov, D. Sodaitis, N. Leuchanka, Z. Laforet, M. Winder, D. K. Haggerty, M. Desai, Q. Hu, A. Culver, and G. Isman (presented by C. W. Smith), Spring Meeting of the American Geophysical Union (Ft. Lauderdale), May 2008. (*Eos Transactions, American Geophysical Union*, **89**(23), Spring Meeting Supplement, Abstract SH41A-02, 2008.)

292. "Automated Detection and Analysis of Interplanetary Shocks Running Real-Time on the Web," V. Vorotnikov, C. W. Smith, Q. Hu, A. Szabo, R. M. Skoug, C. M.S. Cohen, and A. J. Davis (presented by C. W. Smith), Spring Meeting of the American Geophysical Union (Ft. Lauderdale), May 2008. (*Eos Transactions, American Geophysical Union*, **89**(23), Spring Meeting Supplement, Abstract SH41A-17, 2008.)

293. "Power Spectrum Anisotropy for Interplanetary Fluctuations Inside 1 AU," J. A. Tessein, C. W. Smith, W. H. Matthaeus, M. A. Forman, and J. Borovsky (presented by J. A. Tessein), Spring Meeting of the American Geophysical Union (Ft. Lauderdale), May 2008. (*Eos Transactions, American Geophysical Union*, **89**(23), Spring Meeting Supplement, Abstract SH51B-06, 2008.)

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295. "The Excitation of Magnetic Waves by Solar Energetic Particle Populations," C. W. Smith, M. A. Lee, J. A. Tessein, V. S. Vorotnikov, D. Sodaitis, N. Leuchanka, Z. Laforet, M. Winder, D. K. Haggerty, M. Desai, Q. Hu, A. Culver, and G. Isman (presented by C. W. Smith), SHINE Workshop (Midway, UT), June 2008.

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297. "Power Spectrum Anisotropy for Interplanetary Fluctuations Inside 1 AU," J. A. Tessein, C. W. Smith, W. H. Matthaeus, M. A. Forman, and J. Borovsky (presented by C. W. Smith), SHINE Workshop (Midway, UT), June 2008.

298. "Solar-wind Turbulence and Discontinuities," B. J. Vasquez, C. W. Smith, S. A. Markovskii, V. I. Abramenko, and D. K. Haggerty (presented by B. J. Vasquez), SHINE Workshop (Midway, UT), June 2008.

299. "Anisotropic Fluxes of Energy and Cross-Helicity to Smaller Scales in the Solar Wind," M. A. Forman, B. T. MacBride, C. W. Smith, and J. H. Podesta (presented by M. A. Forman), APS Division of Plasma Physics (Dallas), November 2008.

300. "Flux-Tube Texture of the Solar Wind: Implications for the Scaling of Anisotropic Magnetic Fluctuation Spectra," A. Bhattacharjee, C.-S. Ng, C. W. Smith, and B. Vasquez (presented by A. Bhattacharjee), APS Division of Plasma Physics (Dallas), November 2008.

301. "Turbulent Cascade Rates and Geometries in the Solar Wind at 1 AU," J. E. Stawarz, C. W. Smith, B. J. Vasquez, M. A. Forman, and B. T. MacBride (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2008. (*Eos Transactions, American Geophysical Union*, **89**(53), Fall Meeting Supplement, Abstract SH31A-1665, 2008.)

302. "The Flux of Open and Torroidal Interplanetary Magnetic Field as a Function of Heliolatitude and Solar Cycle," D. E. Connick, C. W. Smith, and N. A. Schwadron (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2008. (*Eos Transactions, American Geophysical Union*, **89**(53), Fall Meeting Supplement, Abstract SH44A-07, 2008.)

303. "Wave Science with the Electric and Magnetic Field Instrument Suite with Integrated Science (EMFISIS) on the Radiation Belt Storm Probes," S. R. Bounds, C. A. Kletzing, W. S. Kurth, M. H. Acuna, R. B. Torbert, R. Thorne, V. Jordanova,

C. Smith, O. Santolik, R. Pfaff, D. Rowland, G. Hospodarsky, W. Baumjohann, R. Nakamura, and P. Puhl-Quinn (presented by S. R. Bounds), Fall Meeting of the American Geophysical Union (San Francisco), December 2008. (*Eos Transactions, American Geophysical Union*, **89**(53), Fall Meeting Supplement, Abstract U13A-0036, 2008.)

304. "A Two-Component Transport Model for Solar Wind Fluctuations: Waves Plus Quasi-2D Turbulence," S. Oughton, W. H. Matthaeus, C. W. Smith, and B. Breech (presented by S. Oughton), Solar Wind 12 (Saint Malo, France), June 2009.

305. "Understanding Estimates of the Vector Third Moment of Solar Wind Fluctuations and Using It to Determine In-Situ Heating Rates," M. A. Forman, C. W. Smith, B. J. Vasquez, B. T. MacBride, J. E. Stawarz, J. J. Podesta, D. C. Elton, Y. Malecot, and Y. Gagne (presented by M. A. Forman), Solar Wind 12 (Saint Malo, France), June 2009.

306. "The Flux of Open and Toroidal Interplanetary Magnetic Field as a Function of Heliolatitude and Solar Cycle," D. E. Connick, C. W. Smith, and N. A. Schwadron (presented by D. E. Connick), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

307. "Observational Signatures of Thermal and Suprathermal Ion Acceleration at CME-Driven Interplanetary Shocks," M. I. Desai, M. A. Dayeh, C. W. Smith, M. A. Lee, and G. M. Mason (presented by M. I. Desai), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

308. "Contribution of 'Imbalance' to the Turbulent Energy Cascade and Vice-versa," M. A. Forman, J. E. Stawarz, and C. W. Smith (presented by M. A. Forman), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

309. "A Commentary on the Application of 3rd-Moment Theory to Ulysses Observations," M. A. Forman, J. E. Stawarz, C. W. Smith, and B. J. Vasquez (presented by M. A. Forman), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

310. "Search for Low-Frequency Waves due to Interstellar Pickup Protons and the Opportunity to do Solar Wind Turbulence in the Process," C. J. Joyce, C. W. Smith, P. A. Isenberg, and N. Murphy (presented by C. J. Joyce), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

311. "Release of On-Line, Real-Time Shock Detection and Analysis Program for Space Weather Applications," C. W. Smith, V. S. Vorotnikov, Q. Hu, A. Szabo, R. M. Skoug, C. M. S. Cohen, A. J. Davis, and D. Isenberg (presented by C. W. Smith), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

312. "Does $\langle \delta V \cdot \delta B \rangle$ Control the Turbulence: A Study of Spectral Slope and Cascade Rates," C. W. Smith, J. A. Tessein, J. E. Stawarz, B. T. MacBride, B. J. Vasquez, and M. A. Forman (presented by C. W. Smith), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

313. "The Turbulent Cascade and Proton Heating in the Solar Wind at 1 AU," J. E. Stawarz, C. W. Smith, B. J. Vasquez, M. A. Forman, and B. J. MacBride (presented by J. E. Stawarz), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

314. "A Study of Turbulence Associated with Corotating Interaction Regions," J. A. Tessein, C. W. Smith, and B. J. Vasquez (presented by J. A. Tessein), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

315. "Spectral Indices for Multi-Dimensional Interplanetary Turbulence at 1 AU," J. A. Tessein, C. W. Smith, B. T. MacBride, W. H. Matthaeus, M. A. Forman, and J. E. Borovsky (presented by J. A. Tessein), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

316. "Proton Heating Rate in a near Solar Minimum Polar Wind," B. J. Vasquez, C. W. Smith, and J. E. Stawarz (presented by B. J. Vasquez), SHINE Workshop (Wolfville, Nova Scotia), August 2009.

317. "Proton Heating Rate in a near Solar Minimum Polar Wind," B. J. Vasquez, C. W. Smith, and J. E. Stawarz (presented by B. J. Vasquez), SOHO Workshop (Northeast Harbor, ME), October 2009.

318. "The 2009 Space Science Component of UNH Project SMART and High School Students Building a High-Altitude Balloon Payload," C. Smith, L. Broad, L.-J. Chen, C. Farrugia, K. Frederick-Frost, S. Goelzer, H. Kucharek, R. Messeder, E. Moebius, P. Puhl-Quinn, and R. Torbert (presented by C. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract ED53D-0561, 2009.)

319. "Observation of Low-Frequency Waves due to Interstellar Pickup He^{+}," C. J. Joyce, C. W. Smith, P. A. Isenberg, N. Murphy, and N. A. Schwadron (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SH13B-1521, 2009.)

320. "Temporal Evolution of Energetic Particles and Magnetic Field Wave Intensities near CME-driven Interplanetary Shocks," M. I. Desai, M. A. Dayeh, M. A. Lee, C. W. Smith and G. M. Mason (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SH41C-05, 2009.)

321. "The Turbulent Cascade and Proton Heating in the Solar Wind at 1 AU: Comparison with Observed Proton Heating and Dynamics of High Cross Helicity States," J. E. Stawarz, C. W. Smith, B. J. Vasquez, M. A. Forman, J. A. Tessein, and B. J. MacBride (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SH53A-1297, 2009.)

322. "Kinetic, Magnetic and Cross-Helicity Contributions to the Turbulent Cascade in the Solar Wind," M. A. Forman, J. E. Stawarz, and C. W. Smith (presented by M. A. Forman), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SH53A-1298, 2009.)

323. "A Study of Turbulence Associated with Corotating Interaction Regions," J. A. Tessein, C. W. Smith, and B. J. Vasquez (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SH53A-1301, 2009.)

324. " 'Crater Flux Transfer Events: Highroad to the X-line?," C. J. Farrugia, R. B. Torbert, D. J. Southwood, S. W. Cowley, A. Vrublevskis, A. Vaivads, M. Andre, C. J. Owen, D. G. Sibeck, P. Decreau, J. Dorelli, E. A. Lucek, C. Mouikis, and C. W. Smith (presented by C. J. Farrugia), Fall Meeting of the American Geophysical Union (San Francisco), December 2009. (*Eos Transactions, American Geophysical Union*, **90**(52), Fall Meeting Supplement, Abstract SM12A-04, 2009.)

325. "Using Third Moments to Study Turbulence and Heating in the Solar Wind," M. A. Forman, C. W. Smith, J. E. Stawarz, and B. J. Vasquez (presented by M. A. Forman), Fourth Isradynamics Conference 2010 - Dynamical Processes in Space Plasmas (Dead Sea, Israel), April 2010.

326. "Excitation of Low-Frequency Waves in the Solar Wind by Newborn Interstellar Pickup Ions H^+ and He^+ as Seen by Voyager at 4.5 AU," C. W. Smith, P. A. Isenberg, C. J. Joyce, N. Murphy, and N. A. Schwadron, Joint Meeting of ACE, STEREO, SOHO, and WIND In-Situ Science Teams (Kennebunkport, ME), June 2010.

327. "Magnetosheath for Almost-Aligned Solar Wind Magnetic Field and Flow Vectors: Wind Observations Across the Dawnside Magnetosheath at X = -12 Re," C. J. Farrugia, N. V. Erkaev, R. B. Torbert, H. K. Biernat, F. T. Gratton, A. Szabo, H. Kucharek, H. Matsui, R. P. Lin, K. W. Ogilvie, R. P. Lepping, and C. W. Smith (presented by C. J. Farrugia), COSPAR 38^{th} Scientific Assembly (Bremen, Germany), July 2010.

328. "Temporal Evolution of Energetic Particles and Magnetic Field Waves Near CME-driven Shocks," M. I. Desai et al. (presented by M. I. Desai), COSPAR 38^{th} Scientific Assembly (Bremen, Germany), July 2010.

329. "The Turbulent Cascade for High Cross-Helicity States at 1 AU," J. E. Stawarz, C. W. Smith, B. J. Vasquez, M. A. Forman, and B. T. MacBride, SHINE (Santa Fe, NM), July 2010.

330. "Excitation of Low-Frequency Waves by Newborn Interstellar Pickup Ions H^+ and He^+ at 4.5 AU," C. J. Joyce, C. W. Smith, P. A. Isenberg, N. Murphy, and N. A. Schwadron, SHINE (Santa Fe, NM), July 2010.

331. "Connecting Solar and Heliospheric Physics during the Protracted Solar Minimum," N. A. Schwadron, D. E. Connick, and C. W. Smith, SHINE (Santa Fe, NM), July 2010.

332. "Interplanetary Discontinuities and Turbulent Energy Cascades," B. J. Vasquez and C. W. Smith, SHINE (Santa Fe, NM), July 2010.

333. "The Role of Reconnection in Controlling Interplanetary Magnetic Flux Depletion in Forming the Heliospheric Solar Cycle," D. E. Connick, N. A. Schwadron, and C. W. Smith, Abstract SH33C-03, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

334. "Observational Signatures of Ion Acceleration Near CME-Driven Interplanetary Shocks," M. I. Desai, M. A. Dayeh, M. A. Lee, C. W. Smith, G. M. Mason, and J. C. Kasper (presented by M. I. Desai), Abstract SH41C-02, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

335. "Third Moments and the Role of Anisotropy from Velocity Shear in the Solar Wind," C. W. Smith, J. E. Stawarz, B. J. Vasquez, and M. A. Forman, Abstract SH51D-1717, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

336. "Transport of Solar Wind Fluctuations: A two-component model," S. Oughton, W. H. Matthaeus, C. W. Smith, and B. Breech (presented by S. Oughton), Abstract SH53A-07, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

337. "Magnetic Correlation Functions in the Solar Wind in the Eulerian Reference Frame," J. M. Weygand, M. G. Kivelson, W. H. Matthaeus, S. Dasso, and C. Smith (presented by J. M. Weygand), Abstract SM51C-1821, Fall Meeting of the American Geophysical Union (San Francisco), December 2010.

338. "Automated Detection and Analysis of Interplanetary Shocks Using Single-Component Wind Speeds in a Rankine-Hugoniot Solution," V. S. Vorotnikov, C. W. Smith, C. J. Farrugia, C. J. Meredith, Q. Hu, A. Szabo, R. M. Skoug, C. M. S. Cohen, A. J. Davis, K. Yumoto, and D. K. Isenberg (presented by C. W. Smith), Workshop on the Causes and Consequences of Solar Cycle 24 (Boulder, CO), May 2011.

339. "A Statistical Study of Waves due to Newborn Interstellar Pickup H^+ as Observed by the Ulysses Spacecraft," B. E. Cannon, C. J. Joyce, C. W. Smith, P. A. Isenberg, and N. Murphy (presented by B. E. Cannon), SHINE Workshop (Snowmass, CO), July 2011.

340. "Observation of High-Frequency Waves in the Solar Wind Excited by Newborn Interstellar Pickup Ions," C. J. Joyce, C. W. Smith, P. A. Isenberg, N. Murphy, S. P. Gary, and P. Gray (presented by C. J. Joyce), SHINE Workshop (Snowmass, CO), July 2011.

341. "Excitation of Low-Frequency Waves in the Solar Wind by Newborn Interstellar Pickup Ions H^+ and He^+ as Seen by Voyager at 4.5 AU," C. J. Joyce, C. W. Smith, P. A. Isenberg, N. A. Schwadron, and N. Murphy (presented by C. J. Joyce), SHINE Workshop (Snowmass, CO), July 2011.

342. "Use of Single-Component Wind Speed in Rankine-Hugoniot Analysis of Interplanetary Shocks," C. J. Meredith, V. S. Vorotnikov, C. W. Smith, C. J. Farrugia, Q. Hu, A. Szabo, R. M. Skoug, C. M. S. Cohen, A. J. Davis, K. Yumoto, and D. Isenberg (presented by C. J. Meredith), SHINE Workshop (Snowmass, CO), July 2011.

343. "The Relative Strength of the Flanks of Interplanetary Shocks," C. J. Meredith, C. W. Smith, C. J. Farrugia, Q. Hu, and V. S. Vorotnikov (presented by C. J. Meredith), SHINE Workshop (Snowmass, CO), July 2011.

344. "A Decade of Solar Wind Dissipation Range Dynamics," C. W. Smith, B. J. Vasquez, M. R. Stemkowski, J. E. Stawarz, R. J. Leamon, W. H. Matthaeus, K. Hamilton, M. A. Forman, and B. T. MacBride (presented by C. W. Smith), SHINE Workshop (Snowmass, CO), July 2011.

345. "Observational Constraints on the Role of Kinetic Alfven Waves in the Solar Wind," C. W. Smith, B. J. Vasquez, and J. V. Hollweg (presented by C. W. Smith), SHINE Workshop (Snowmass, CO), July 2011.

346. "CME and Reconnection Contributions to the Interplanetary Magnetic Field," C. W. Smith, N. A. Schwadron, and D. E. Connick (presented by C. W. Smith), SHINE Workshop (Snowmass, CO), July 2011.

347. "Applications of Third-Moment Theory to Turbulence in the Solar Wind at 1 AU," J. E. Stawarz, C. W. Smith, B. J. Vasquez, M. A. Forman, B. T. MacBride, and J. Klewicki (presented by J. E. Stawarz), SHINE Workshop (Snowmass, CO), July 2011.

348. "The Two-Dimensional Autocorrelation Function for Turbulence as Spatial Scales Near the Ion Dissipation Scale," M. R. Stemkowski, C. W. Smith, and B. J. Vasquez (presented by M. R. Stemkowski), SHINE Workshop (Snowmass, CO), July 2011.

349. "Coronal Electron Temperature from the Solar Wind Scaling Law throughout the Space Age," N. A. Schwadron, C. W. Smith, H. E. Spence, M. Stemkowski, J. C. Kasper, K. E. Korreck, M. L. Stevens, B. A. Maruca, K. K. Kiefer, S. T. Lepri, and D. J. McComas (presented by N. A. Schwadron), Abstract SH23D-05, Fall Meeting of the American Geophysical Union (San Francisco), December 2011.

350. "CME and Reconnection Contributions to the Interplanetary Magnetic Field," D. Connick, N. A. Schwadron, and C. W. Smith (presented by N. A. Schwadron), Abstract SH33A-2039, Fall Meeting of the American Geophysical Union (San Francisco), December 2011.

351. "The Spaghetti Model of the Turbulent Solar Wind: Implications for the Scaling of Magnetic Fluctuation Spectra," A. Bhattacharjee, C. W. Smith, and B. J. Vasquez

(presented by A. Bhattacharjee), Abstract SH41C-06, Fall Meeting of the American Geophysical Union (San Francisco), December 2011.

352. "Observational Constraints on the Role of Kinetic Alfven Waves in the Solar Wind," C. W. Smith, B. J. Vasquez, and J. V. Hollweg (presented by B. J. Vasquez), Abstract SH43C-1969, Fall Meeting of the American Geophysical Union (San Francisco), December 2011.

353. "Ulysses Observations of Magnetic Waves due to Newborn Interstellar Pickup Ions and Why They are So Seldom Seen," B. E. Cannon, C. W. Smith, P. A. Isenberg, B. J. Vasquez, C. J. Joyce, N. Murphy, and R. G. Nuno (presented by C. W. Smith), Solar Wind 13 (Kailua-Kona, Hawaii), June 2012.

354. "The Turbulent Cascade and Proton Heating in the Solar Wind During Solar Minimum," J. T. Coburn, C. W. Smith, B. J. Vasquez, J. E. Stawarz, and M. A. Forman (presented by J. T. Coburn), Solar Wind 13 (Kailua-Kona, Hawaii), June 2012.

355. "Annalysis of Multi-Dimensional Correlation Functions at Small Scales in the Solar Wind," C. W. Smith, B. J. Vasquez, and M. R. Stemkowski (presented by C. W. Smith), Solar Wind 13 (Kailua-Kona, Hawaii), June 2012.

356. "Ulysses Observations of Magnetic Waves due to Newborn Interstellar Pickup Ions and Why They are So Seldom Seen," B. E. Cannon, C. W. Smith, P. A. Isenberg, B. J. Vasquez, C. J. Joyce, N. Murphy, and R. G. Nuno (presented by C. W. Smith), SHINE Workshop (Maui, Hawaii), June 2012.

357. "The Turbulent Cascade and Proton Heating in the Solar Wind During Solar Minimum," J. T. Coburn, C. W. Smith, B. J. Vasquez, J. E. Stawarz, and M. A. Forman (presented by J. T. Coburn), SHINE Workshop (Maui, Hawaii), June 2012.

358. "Annalysis of Multi-Dimensional Correlation Functions at Small Scales in the Solar Wind," C. W. Smith, B. J. Vasquez, and M. R. Stemkowski (presented by C. W. Smith), SHINE Workshop (Maui, Hawaii), June 2012.

359. "Proton Temperature Gradients From 0.3 to 1 AU," B. J. Vasquez, L. Lamarche, and C. W. Smith (presented by B. J. Vasquez), Abstract SH13A-2222, Fall Meeting of the American Geophysical Union (San Francisco), December 2012.

360. "The Electric Fields and Waves (EFW) Instrument on the Radiation Belt Storm Probes: Science Operations Center, Operational Modes, and Data Products," J. W. Bonnell, J. R. Wygant, R. E. Ergun, P. C. Schroeder, W. Rachelson, J. Tao, J. Vernetti, F. Mozer, K. Kersten, A. W. Breneman, C. Kletzing, S. R. Bounds; W. S. Kurth, G. B. Hospodarsky, R. J. MacDowall, and C. W. Smith (presented by J. W. Bonnell), Abstract SM31C-2379, Fall Meeting of the American Geophysical Union (San Francisco), December 2012.

361. "A Velocity Shear Driven Turbulence Model for Recent ACE Magnetometer Observations," S. Ghosh, E. C. Roelof, and C. W. Smith (presented by S. Ghosh), Abstract

SH54B-07, Fall Meeting of the American Geophysical Union (San Francisco), December 2012.

362. "Initial Results From The Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Van Allen Probes," C. A. Kletzing, W. S. Kurth, R. MacDowall, R. B. Torbert, G. R. Hospodarsky, S. R. Bounds, C. W. Smith, J. Connerney, O. Santolik, R. Thorne, V. Jordanova, J. Wygant, and J. W. Bonnell (presented by C. A. Kletzing), Asia Oceania Geosciences Society Meeting (Brisbane), June 2013.

363. "A Survey of EMIC Waves with Harmonic Structures During the First 9 Months of the Van Allen Probes Mission," M. Argall, R. Torbert, C. Smith, and C. Kletzing, Geospace Environment Modeling - GEM (Snowmass, Colorado), June 2013.

364. "Initial Results From The Electric and Magnetic Field Instrument Suite and Integrated Science (EMFISIS) on the Van Allen Probes," C. A. Kletzing, W. S. Kurth, R. MacDowall, R. B. Torbert, G. R. Hospodarsky, S. R. Bounds, C. W. Smith, J. Connerney, O. Santolik, R. Thorne, V. Jordanova, J. Wygant, J. W. Bonnell, H. Spence, G. Reeves, and J. Fennell (presented by C. A. Kletzing), International Association of Geomagnetism and Aeronomy - IAGA 2013 (Merida Yucatan, Mexico) August 2013.

365. "Search for Oxygen Torus in the Inner Magnetosphere: Van Allen Probes Observations," M. Nosé, S. Oimatsu, K. Keika, C. A. Kletzing, C. W. Smith, and R. MacDowall (presented by M. Nosé), Fall Meeting of the Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS) (Kochi, Japan), November 2013.

366. "Search for Oxygen Torus in the Inner Magnetosphere: Van Allen Probes Observations," M. Nosé, S. Oimatsu, K. Keika, C. A. Kletzing, C. W. Smith, and R. MacDowall (presented by M. Nosé), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

367. "In Situ and Ground-Based Observations of a Long-Duration Pulsating Aurora Event," E. J. Lund, J. V. Rodriguez, C.-L. Huang, M. R. Lessard, K. W. Paulson, J. F. Fennell, H. O. Funsten, G. B. Hospodarsky, C. A. Kletzing, W. S. Kurth, E. A. MacDonald, G. D. Reeves, R. M. Skoug, C. W. Smith, and H. E. Spence (presented by E. J. Lund), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

368. "Intense Plasmaspheric ULF Waves Observed from the Van Allen Probes," K. Takahashi, J. Wygant, C. Kletzing, W. Kurth, C. Smith, R. MacDowall, L. Dai, R. Denton, and K. Min (presented by K. Takahashi), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

369. "Bird Watching in the Magnetosphere: Global Scale Observations of Near Earth Plasma Sheet Dynamics Through Multi-Mission and Instrument Data Access," M. Taylor, D. Turner, E. Kronberg, P. Daly, C. Kletzing, H. Spence, S. G. Claudepierre, A. Fazakerley, A. Walsh, P. Escoubet, A. Masson, and H. Laakso (presented by

M. Taylor), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

370. "Pc1 waves observed by the Van Allen Probes and at Halley, Antarctica," J. L. Posch, M. J. Engebretson, N. D. Roisen, J. B. Perrin, A. W. Breneman, K. R. Kersten, J. R. Wygant, C. A. Kletzing, M. R. Lessard, M. R. Argall, and C. W. Smith (presented by J. L. Posch), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

371. "Excitation of Poloidal Standing Alfvén Waves Through Drift Resonance Wave-Particle Interaction," L. Dai, K. Takahashi, J. R. Wygant, L. Chen, J. Bonnell, C. A. Cattell, S. Thaller, C. Kletzing, C. W. Smith, R. J. MacDowall, D. N. Baker, J. B. Blake, J. Fennell, S. Claudepierre, H. O. Funsten, G. D. Reeves, and H. E. Spence (presented by L. Dai), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

372. "A Survey of EMIC Waves with Harmonic Signatures and Their Link to Source Regions," M. R. Argall, R. B. Torbert, C. Kletzing, C. Smith, R. MacDowell, J. Wygant, and J. Bonnell (presented by M. R. Argall), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

373. "Van Allen Probes Data Showing Nonlinear Electric Field Feedback During a Magnetic Storm," M. W. Liemohn, R. M. Katus, L. K. Smith, R. M. Skoug, H. E. Spence, J. Wygant, J. Bonnell, C. W. Smith, C. A. Kletzing, R. Ilie, and N. Yu. Ganushkina (presented by M. W. Liemohn), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

374. "Pulsating Aurora Observed on the Ground and in-situ by the Van Allen Probes," M. R. Lessard, I. Cohen, R. E. Denton, M. J. Engebretson, C. Kletzing, J. Wygant, S. R. Bounds, C. W. Smith, R. J. MacDowall, and W. S. Kurth (presented by M. R. Lessard), Fall Meeting of the American Geophysical Union (San Francisco), December 2013.

375. "Nonlinear Magnetosphere-Ionosphere Coupling in Near-Earth Space via Closure of the Partial Ring Current," M. W. Liemohn, R. M. Katus, L. K. Smith, R. M. Skoug, J. Niehof, C. W. Smith, J. Wygant, R. Ilie, and N. Yu. Ganushkina (presented by M. W. Liemohn), AGU Chapman Conference on the Magnetosphere-Ionosphere Coupling in the Solar System (Yosemite), February 2014.

376. "Turbulence Cascades in the Solar Wind," M. A. Forman, J. T. Coburn, C. W. Smith, B. J. Vasquez, and J. E. Stawarz (presented by M. A. Forman), Meeting of the American Physical Society (Savannah, GA), April 2014.

377. "Van Allen Probes Observations of Oxygen Torus in the Inner Magnetosphere," M. Nosé, K. Keika, C. A. Kletzing, C. W. Smith, R. J. MacDowall, W. S. Kurth, and S. De Pascuale (presented by M. Nosé), Japan Geoscience Union Meeting (Yokohama), April 2014.

378. "Statistical Study on the Hydrogen, Helium, and Oxygen Band EMIC Waves Witnessed by the Van Allen Probes," A. A. Saikin, J.C. Zhang, R. C. Allen, C. W. Smith, L. M. Kistler, H. E. Spence, R. B. Torbert, and C. A. Kletzing (presented by A. A. Saikin), Geospace Environment Modeling (GEM) Workshop (Portsmouth, VA), June 2014.

379. "Purely Compressional Pc1 Wave Events Observed by the Van Allen Probes," J. Posch, M. Engebretson, J. Johnson, E.-H. Kim, S. Thaller, J. Wygant, C. Kletzing, and C. Smith (presented by M. Engebretson), Geospace Environment Modeling (GEM) Workshop (Portsmouth, VA), June 2014.

380. "Statistical Observations of Pc1 Pearl Pulsations using the Van Allen Probes," K. Paulson, C. Smith, R. Torbert, and C. Kletzing (presented by K. Paulson) Geospace Environment Modeling (GEM) Workshop (Portsmouth, VA), June 2014.

381. "Purely Compressional Pc1 waves observed by the Van Allen Probes," M. J. Engebretson, J. L. Posch, J. R. Johnson, E.-H. Kim, S. Thaller, J. R. Wygant, C. A. Kletzing, and C. W. Smith (presented by M. J. Engebretson), 40^{th} COSPAR Scientific Assembly (Moscow), August 2014.

382. "Purely Compressional Pc1 waves observed by the Van Allen Probes," M. J. Engebretson, J. L. Posch, J. R. Johnson, E.-H. Kim, S. A. Thaller, J. R. Wygant, C. A. Kletzing, and C. W. Smith (presented by M. J. Engebretson), Chapman Conference on Low-Frequency Waves in Space Plasmas (Jeju Island, Republic of Korea), August 2014.

383. "Statistical Distribution of Observations of Pc1 Pearl Pulsations by the Van Allen Probes and Poynting Flux Analysis from 11th October 2013," K. W. Paulson, M. Lessard, M. Engebretson, C. W. Smith, R. B. Torbert, and C. A. Kletzing, (presented by K. W. Paulson), Chapman Conference on Low-Frequency Waves in Space Plasmas (Jeju Island, Republic of Korea), August 2014.

384. "Van Allen Probe Observations: Poloidal ULF Waves Excited by Resonant Wave-Particle Interaction in the Inner Magnetosphere," L. Dai, K. Takahashi, J. R. Wygant, L. Chen, J. W. Bonnell, C. A. Cattell, S. A. Thaller, C. Kletzing, C. W. Smith, R. J. MacDowall, D. N. Baker, J. B. Blake, J. F. Fennell1, S. G. Claudepierre, H. O. Funsten, G. D. Reeves, and H. Spence (presented by L. Dai), Chapman Conference on Low-Frequency Waves in Space Plasmas (Jeju Island, Republic of Korea), August 2014.

385. "Van Allen Probes Observations of Energetic Particle Drift-phase Structure in the Earth's Radiation Belts," S. Claudepierre, J. Wygant, W. Kurth, B. MacDowall, R. Friedel, G. Reeves, P. O'Brien, M. Henderson, M. K. Hudson, K. Takahashi, J. Fennell, B. Blake, J. Roeder, J. Clemmons, I. Mann, H. Funsten, H. Spence, D. Baker, C. Kletzing, and C. Smith (given by S. Claudepierre), Abstract ST19-13-A020, Asia Oceania Geosciences Society (Sopporo, Japan), August 2014.

386. "Pulsating Aurora Observed on the Ground and Chorus and Poloidal Mode Waves in-situ by the Van Allen Probes," M. Lessard, K. Paulson, I. Cohen, K. Takahashi, C. Kletzing, J. Wygant, S. Bounds, C. Smith, E. Donovan, R. MacDowall, and W. Kurth (presented by M. Lessard), Abstract ST21-A013, Asia Oceania Geosciences Society (Sopporo, Japan), August 2014.

387. "Excitation of EMIC Waves Detected by the Van Allen Probes on 28 April 2013," J.-C. Zhang, A. A. Saikin, L. M. Kistler, C. W. Smith, H. E. Spence, C. G. Mouikis, R. B. Torbert, B. A. Larsen, G. D. Reeves, R. M. Skoug, H. O. Funsten, W. S. Kurth, C. A. Kletzing, R. C. Allen, and V. K. Jordanova (presented by J.-C. Zhang), XXXI General Assembly and Scientific Symposium of the International Union of Radio Science (Beijing, China), August 2014.

388. "Observations and Observability of Magnetic Waves due to Newborn Interstellar Pickup Ions," C. W. Smith, P. Aggarwal, M. R. Argall, B. E. Cannon, M. K. Fisher, P. A. Isenberg, C. J. Joyce, N. Murphy, R. G. Nuno, N. A. Schwadron, D. K. Taylor, and B. J. Vasquez (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH22B-08, December 2014.

389. "Project SMART: A UNH-Sponsored Outreach Program for High School Students" C. W. Smith, L. Broad, S. Goelzer, and R. Levergood (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract ED43C-347, December 2014.

390. "Spectral Properties of Large Gradual Solar Energetic Particle Events," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, G. Li, C. M. S. Cohen, R. A. Mewaldt and C. W. Smith (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH32A-04, December 2014.

391. "Shocks Propagating Through Coronal Mass Ejections," N. Lugaz, C. J. Farrugia, C. W. Smith and K. W. Paulson (presented by N. Lugaz), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH43B-4216, December 2014.

392. "Variable Cascade Dynamics and Intermittency in the Solar Wind at 1 AU," B. J. Vasquez, J. T. Coburn, C. W. Smith, M. A. Forman, and J. E. Stawarz (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH52A-02, December 2014.

393. "Measurements From the Van Allen Probes EFW Instrument on the Role of Electric Fields in Controlling the Structure of the Inner Magnetosphere and the Dynamic of Particle Energization," J. R. Wygant, A. W. Breneman, L. Dai, S. A. Thaller, C. A. Cattell, J. W. Bonnell, F. Mozer, O. V. Agapitov, R. Ergun, D. N. Baker, X. Li, S. Califf, D. M. Malaspina, M. K. Hudson, R. M. Millan, A. Halford, J. C. Foster, P. J. Erickson, R. J. Strangeway, E. Donovan1, C. Kletzing, W. S. Kurth1, S. R. Bounds, J. F. Fennell, G. D. Reeves, C. W. Smith, A. Y. Ukhorskiy and M. Gkioulidou (presented by J. R. Wygant), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM23B-4183, December 2014.

394. "ULF Wave Distribution and Azimuthal Wave Number Observed by Van Allen Probes," S. Oimatsu, M. Nose, C. Kletzing, C. W. Smith, and R. J. MacDowall (presented by S. Oimatsu), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM23B-4193, December 2014.

395. "Statistical Observations of Pc1 Pearl Pulsations as Compared to Unstructured EMIC Waves Using the Van Allen Probes," K. W. Paulson, C. W. Smith, M. Lessard, R. B. Torbert and C. Kletzing (presented by K. W. Paulson), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM23B-4226, December 2014.

396. "Storm-time Ion Acceleration in Kinetic Scale Alfvnic Fluctuations: Van Allen Probe/THEMIS Observations and Modelling," C. C. Chaston, J. B. Bonnell, J. Wygant, C. Kletzing, G. Hospardarsky, W. S. Kurth, C. W. Smith, E. MacDonald and L. Lanzerotti (presented by C. C. Chaston), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM23C-4252, December 2014.

397. "The Occurrence, Spatial Distribution, and Wave Properties of Hydrogen-, Helium-, and Oxygen-Band EMIC Waves Observedby the Van Allen Probes," A. A. Saikin, J.-C. Zhang, R. C. Allen, C. W. Smith, L. M. Kistler, H. E. Spence, R. B. Torbert, C. A. Kletzing, and V. K. Jordanova (presented by A. A. Saikin), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM32A-04, December 2014.

398. "Observations of Purely Compressional Waves in the Upper ULF Band Observed by the Van Allen Probes," J. L. Posch, M. J. Engebretson, J. R. Johnson, E.-H. Kim, S. A. Thaller, J. R. Wygant, C. A. Kletzing, C. W. Smith, and G. D. Reeves (presented by J. L. Posch), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM43A-4259, December 2014.

399. "EMIC Waves and Associated Relativistic Electron Precipitation on 25-26 January 2013," J. Zhang, A. J. Halford, C.-L. Huang, H. E. Spence, G. D. Reeves, R. M. Millan, R. J. Redmon, C. W. Smith, R. B. Torbert, W. S. Kurth, C. A. Kletzing, S. G. Claudepierre, J. B. Blake, J. F. Fennel, and D. N. Baker (presented by J. Zhang), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM43A-4266, December 2014.

400. "The Occurrence, Spatial Distribution, and Wave Properties of H+, He+, and O+ Band EMIC Waves Observed by the Van Allen Probes," A. A. Saikin, J.-C. Zhang, R. C. Allen, C. W. Smith, L. M. Kistler, H. E. Spence, R. B. Torbert, C. A. Kletzing, and V. K. Jordanova (presented by A. A. Saikin), Inner Magnetosphere Coupling III (Los Angeles, CA), March 2015.

401. "Local Fluctuations and Correlations in Turbulent Cascade Rates in the Solar Wind," M. A. Forman, J. T. Coburn, C. W. Smith, B. J. Vasquez and J. E. Stawarz (presented by M. A. Forman), Joint Assembly (Montreal), Abstract SPA11A-02, May 2015.

402. "In Situ Statistical Observations of Pc1 Pearl Pulsations and Unstructured EMIC Waves Using the Van Allen Probes," K. Paulson, C. Smith, M. Lessard, R. Torbert, C. Kletzing (presented by K. Paulson), International Union of Geodesy and Geophysics (IUGG) (Prague, Czech Republic), June 2015.

403. "Formation of the Oxygen Torus in the Inner Magnetosphere: Van Allen Probes Observations," M. Nosé, S. Oimatsu, K. Keika, C. A. Kletzing, W. S. Kurth, S. De Pascuale, C. W. Smith, R. J. MacDowall, S. Nakano, G. D. Reeves, H. E. Spence, and B. A. Larsen (presented by M. Nosé), International Union of Geodesy and Geophysics (IUGG) (Prague, Czech Republic), June 2015.

404. "Van Allen Probes, NOAA, and Ground Observations of an Intense Pc 1 Wave Event Extending 12 Hours in MLT and its Resulting Depletion of the Outer Radiation Belt," M. J. Engebretson, J. L. Posch, J. R. Wygant, C. A. Kletzing, M. R. Lessard, C.-L. Huang, H. E. Spence, A. J. Boyd, C. W. Smith, D. N. Baker, Y. Omura, R. B. Horne, G. D. Reeves, M. Gkioulidou, K. Oksavik, I. R. Mann, T. Raita and K. Shiokawa (presented by M. J. Engebretson), International Union of Geodesy and Geophysics (IUGG) (Prague, Czech Republic), June 2015.

405. "Local Time Distributions of EMIC Wave Activity: A Comparison of Observations from the Van Allen Probes, GOES 13 and 15, and Halley, Antarctica," M. J. Engebretson, J. L. Posch, M. Ohnsted, C. A. Kletzing, C. W. Smith, H. J. Singer, M. R. Lessard, and R. B. Horne (presented by M. J. Engebretson), International Union of Geodesy and Geophysics (IUGG) (Prague, Czech Republic), June 2015.

406. "Third Moment Description of the Turbulent Cascade and Intermittency," J. T. Coburn, C. W. Smith, M. A. Forman, B. J. Vasquez, and J. E. Stawarz (presented by J. T. Coburn), SHINE 2015 (Stowe, VT), July 2015.

407. "Statistical Analysis of the Magnetic Helicity Signature of the Solar Wind Turbulence at 1 AU," S. Markovskii, B. Vasquez, and C. Smith (presented by S. Markovskii), SHINE 2015 (Stowe, VT), July 2015.

408. "An Investigation of the Causes of Solar-Cycle Variations in SEP Fluences and Composition," R. A. Mewaldt, C. M. S. Cohen, G. M. Mason, T. T. von Rosenvinge, T. P. Armstrong, D. K. Haggerty, G. Li, C. W. Smith, and A. Vourlidas (presented by R. A. Mewaldt), Thirty-Fourth International Cosmic Ray Conference (The Hague, Netherlands), August 2015.

409. "Solar Wind at 33 AU: Setting Bounds on the Pluto Interaction," F. Bagenal, P. A. Delamere, H. A. Elliott, M. E. Hill, C. M. Lisse, D. J. McComas, R. L. McNutt, Jr., J. D. Richardson, C. W. Smith, and D. F. Strobel (presented by F. Bagenal), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM31D-2537, December 2015.

410. "Why is the Sun No Longer Accelerating Particles to High Energy in Solar Cycle 24?," R. A. Mewaldt, C. M. S. Cohen, G. Li, G. M. Mason, C. W. Smith, T. T. von

Rosenvinge, and A. Vourlidas (presented by R. A. Mewaldt), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH33D-03, December 2015.

411. "Interplanetary Coronal Mass Ejections from MESSENGER Orbital Observations at Mercury," R. M. Winslow, N. Lugaz, L. C. Philpott, N. A. Schwadron, C. J. Farrugia, B. J. Anderson, and C. W. Smith (presented by R. M. Winslow), Fall Meeting of the American Geophysical Union (San Francisco), Abstact SH53A-2469, December 2015.

412. "The Geomagnetic Condition Dependence of the Spatial Distributions of EMIC Waves Observed by the Van Allen Probes," A. A. Saikin, J.-C. Zhang, R. C. Allen, C. W. Smith, L. M. Kistler, H. E. Spence, R. B. Torbert, C. A. Kletzing, and V. K. Jordanova (presented by A. A. Saikin), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM13G-07, December 2015.

413. "Storm-time occurrence and Spatial distribution of Pc4 poloidal ULF waves in the inner magnetosphere: A Van Allen Probes Statistical study," L. Dai, K. Takahashi, R. L. Lysak, C. Wang, J. R. Wygant, C. Kletzing, J. W. Bonnell, C. A. Cattell, C. W. Smith, R. J. MacDowall, S. A. Thaller, A. W. Breneman, X. Tang, X. Tao and L. Chen (presented by L. Dai), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41E-2522, December 2015.

414. "Location of EMIC Wave Events Relative to the Plasmapause: Van Allen Probes Observations," S. Tetrick, M. Engebretson, J. Posch, C. Kletzing, C. Smith, J. Wygant, M. Gkioulidou and G. Reeves (presented by S. Tetrick), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41F-2547, December 2015.

415. "Generation and Effects of EMIC Waves Observed by the Van Allen Probes on 18 March 2013," J. Zhang, A. A. Saikin, K. Gamayunov, H. E. Spence, B. A. Larsen, G. D. Reeves, C. W. Smith, R. B. Torbert, W. S. Kurth, and C. A. Kletzing (presented by J. Zhang), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41F-2551, December 2015.

416. "Multifrequency Compressional Magnetic Field Oscillations and Their Relation to Multiharmonic Toroidal Standing Alfvén Waves," K. Takahashi, C. Waters, C. Kletzing, W. Kurth, C. W. Smith, and K.-H. Glassmeier (presented by K. Takahashi), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41H-2570, December 2015.

417. "Comparing Local Time and Storm Phase Distributions of EMIC Waves Observed by Van Allen Probes A, GOES 13, and Halley, Antarctica," M. W. Ohnsted, M. J. Engebretson, J. L. Posch, M. R. Lessard, H. J. Singer, C. A. Kletzing, C. W. Smith, and R. B. Horne (presented by M. W. Ohnsted), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41H-2575, December 2015.

418. "Van Allen Probes Observations of Dipolarization and its Associated O+ Flux Variations in the Inner Magnetosphere," M. Nose, K. Keika, C. A. Kletzing, C. W. Smith, R. J. MacDowall, G. D. Reeves and H. Spence (presented by M. Nose), Fall Meeting

of the American Geophysical Union (San Francisco), Abstract SM53A-08, December 2015.

419. "In Situ Statistical Observation of PC1 Pearl Pulsations by the Van Allen Probes," K. W. Paulson, C. W. Smith, M. R. Lessard, R. B. Torber, C. Kletzing, and J. Wygant (presented by K. W. Paulson), URSI NRSM Meeting (Boulder), January 2016.

420. "Systematic Charge-to-Mass-dependence of Heavy Ion Spectral Breaks Large Gradual Solar Energetic Particle Events," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, G. Li, C. M. S. Cohen, R. A. Mewaldt, N. A. Schwadron, and C. W. Smith (presented by M. I. Desai), European Geosciences Union General Assembly, Abstract EGU2016-2199, April 2016.

421. "Van Allen Probes Observations of Magnetic Field Dipolarization and its Associated O^+ Flux Variations in the Inner Magnetosphere at L¡6.6," M. Nose, K. Keika, C. A. Kletzing, H. Spence, C. W. Smith, R. J. MacDowall, G. D. Reeves, and B. A. Larsen (presented by M. Nose), Japanese Geophysical Union (Chiba, Japan), Abstract PEM08-09, May 2016.

422. "Periodic Ion Flux Modulation observed by Van Allen Probes in Ring Current Region," K. Yamamoto, M. Nose, C. A. Kletzing, C. W. Smith, R. J. MacDowall, H. E. Spence, G. D. Reeves, and B. A. Larsen (presented by K. Yamamoto), Japanese Geophysical Union (Chiba, Japan), Abstract PEM08-P12, May 2016.

423. "Testing Linear Theory on inner magnetosphere EMIC waves observed by the Van Allen Probes," A. A. Saikin, J.-C. Zhang, C. W. Smith, H. E. Spence, B. A. Larsen, G. D. Reeves, R. B. Torbert, and C. A. Kletzing (presented by A. A. Saikin), 2016 Joint CEDAR-GEM Workshop (Santa Fe), June 2016.

424. "Observations of Low-Frequency Waves due to Newborn Interstellar Pickup Ions," B. J. Vasquez, P. Aggarwal, M. R. Argall, L. F. Burlaga, M. Bzowski, B. E. Cannon, S. P. Gary, M. K. Fisher, J. A. Gilbert, P. A. Isenberg, C. J. Joyce, N. Murphy, R. G. Nuno, J. D. Richardson, N. A. Schwadron, R. M. Skoug, C. W. Smith, M. Sokół D. K. Taylor, and T. H. Zurbuchen (presented by B. J. Vasquez), SHINE 2016 (Santa Fe), July 2016.

425. "Systematic Charge-to-Mass-Dependence of Heavy Ion Spectral Breaks in Large Gradual Solar Energetic Particle Events," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, C. M. S. Cohen, R. A. Mewaldt, N. A. Schwadron, and C. W. Smith (presented by M. I. Desai), 13th Annual Meeting Asia Oceana Geosciences Society 2016 (Beijing), Abstract ST04-05-AO25, August 2016.

426. "Emic Waves And 'Associated' Relativistic Electron Precipitation On 25-26 January 2013," J. Zhang, A. Halford, A. Saikin, C.-L. Huang, H. Spence, B. Larsen, G. Reeves, R. Millan, C. Smith, R. B. Torbert, W. Kurth, C. Kletzing, S. Claudepierre, B. Blake, J. Fennell, D. Baker (presented by J. Zhang), 13th Annual Meeting Asia Oceana Geosciences Society 2016 (Beijing), Abstract ST12-A020, August 2016.

427. "Storm-time Poloidal Ulf Waves In The Inner Magnetosphere: A Van Allen Probes Statistical Study," L. Dai, K. Takahashi, R. Lysak, C. Wang, J. Wygant, C. Kletzing, J. Bonnell, C. Cattell, C. Smith, R. MacDowall, S. Thaller, A. Breneman, X. Tang, X. Tao, and L. Chen (presented by L. Dai), 13th Annual Meeting Asia Oceana Geosciences Society 2016 (Beijing), Abstract ST11-28-A017, August 2016.

428. "Systematic Charge-to-Mass-Dependence of Heavy Ion Spectral Breaks in Large Gradual Solar Energetic Particle Events," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, G. Li, C. M. S. Cohen, R. A. Mewaldt, N. A. Schwadron, and C. W. Smith (presented by M. I. Desai), Committee on Space Research - COSPAR (Istanbul, Turkey), August 2016.

429. "Properties of the Fast Magnetosonic Waves Observed by Van Allen Probes," K. Yamamoto, M. Nose, C. A. Kletzing, C. W. Smith, R. J. MacDowall, H. E. Spence, G. D. Reeves, B. A. Larsen, and J. Wygant (presented by K. Yamamoto), Society of Geomagnetismand Earth, Planetary, and Space Sciences (Tokyo), November 2016.

430. "Space Science in Project SMART: A UNH High School Outreach Program," C. W. Smith, P. F. Bloser, L. Broad, S. Goelzer, M. R. Lessard, R. A. Levergood, N. Lugaz, E. Moebius, N. A. Schwadron, R. B. Torbert, and J. Zhang (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract ED11A-0881, December 2016.

431. "Observations from 1 to 6 AU of Low-Frequency Magnetic Waves due to Newborn Interstellar Pickup Ions Using Ulysses, Voyager and ACE Data," C. W. Smith, P. Aggarwal, M. R. Argall, L. F. Burlaga, M. Bzowski, B. E. Cannon, S. P. Gary, M. K. Fisher, J. A. Gilbert, S. J. Hollick, P. A. Isenberg, C. J. Joyce, N. Murphy, R. G. Nuno, Z. B. Pine, J. D. Richardson, N. A. Schwadron, R. M. Skoug, J. M. Sokół D. K. Taylor, B. J. Vasquez, and T. H. Zurbuchen (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH21B-2523, December 2016.

432. "Third-Moment Descriptions of the Interplanetary Turbulent Cascade, Intermittency, and Back Transfer," B. J. Vasquez, J. T. Coburn, M. A. Forman, C. W. Smith, and J. E. Stawarz (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH41A-2514, December 2016.

433. "The Sun's Magnetic Field During The Maunder Minimum And Modern Risks From A Weak Field," F. Rahmanifard, N. Schwadron, C. W. Smith, K. G. McCracken, K. A. Duderstadt, L. Townsend, and N. Lugaz (presented by F. Rahmanifard), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH51C-2601, December 2016.

434. "Spectral Properties of Large Gradual Solar Energetic Particle Events and Their Implications for Near-Sun CME Shocks," M. I. Desai, G. M. Mason, M. A. Dayeh, R. W. Ebert, D. J. McComas, G. Li, C. Cohen, R. A. Mewaldt, N. Schwadron and C. W. Smith (presented by M. I. Desai), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SH54A-01, December 2016.

435. "Van Allen Probe Observations of a Giant Pulsation Event," K. Takahashi, S. Claudepierre, J. Wygant, C. Kletzing, and C. W. Smith (presented by K. Takahashi), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM22B-06, December 2016.

436. "Testing Linear Theory on Inner Magnetosphere EMIC Waves Observed by the Van Allen Probes," A. A. Saikin, J.-C. Zhang, C. W. Smith, H. E. Spence, B. A. Larsen, G. D. Reeves, R. B. Torbert, and C. A. Kletzing (presented by A. A. Saikin), Fall Meeting of the American Geophysical Union (San Francisco), Abstract SM41A-2411, December 2016.

437. "Multipoint Observations of Cavity Mode Oscillations Excited by an Interplanetary Shock," K. Takahashi, R. L. Lysak, M. Vellante, C. Kletzing, J. Wygant, C. W. Smith, V. Angelopoulos, H. J. Singer, K. Koga (presented by K. Takahashi), Japanese Geophysical Union (Makuhari Messe), May 2017.

438. "Statistical Analysis of the Spatial Distribution of Low Frequency Magnetosonic Waves and Proton Ring-Like Distribution ," K. Yamamoto, M. Nose, C. A. Kletzing, C. W. Smith, R. J. MacDowall, G. B. Hospodarsky, H. E. Spence, G. D. Reeves, and B. A. Larsen (presented by K. Yamamoto), Japanese Geophysical Union (Makuhari Messe), May 2017.

439. "Statistical Analysis of the Spatial Distribution of Low Frequency Magnetosonic Waves and Proton Ring-Like Distribution ," K. Yamamoto, M. Nose, C. A. Kletzing, C. W. Smith, R. J. MacDowall, G. B. Hospodarsky, H. E. Spence, G. D. Reeves, and B. A. Larsen (presented by K. Yamamoto), Japanese Geophysical Union (Makuhari Messe), May 2017.

440. "Multipoint Observations of Cavity Mode Oscillations Excited by an Interplanetary Shock," K. Takahashi, R. L. Lysak, M. Vellante, C. Kletzing, J. Wygant, C. W. Smith, V. Angelopoulos, H. J. Singer, K. Koga (presented by K. Takahashi), Geospace Environment Modeling (GEM) Summer Workshop (Portsmouth, VA), June 2017.

441. "Solar Wind Turbulence Cascade from Third Moments: Intermittency and Variability," M. A. Forman, J. T. Coburn, C. W. Smith, B. J. Vasquez, J. E. Stawarz (presented by M. A. Forman), SHINE 2017 (Saint-Sauveur, Quebec, Canada), July 2017.

442. "Van Allen Probes Observations of Drift-Bounce Resonance and Energy Transfer Between Energetic Ring Current Protons and Poloidal Pc4 Wave," S. Oimatsu, M. Nose, K. Takahashi, K. Yamamoto, K. Keika, C. A. Kletzing, C. W. Smith, R. J. MacDowall, D. G. Mitchell, and L. J. Lanzerotti (presented by S. Oimatsu), Meeting of the Society of Geomagnetism and Earth, Planetary and Space Sciences (Kyoto), October 2017.

443. "UNH Project SMART 2017: Space Science for High School Students," C. W. Smith, L. Broad, S. Goelzer, R. A. Levergood, N. Lugaz, and E. Moebius, (presented by

C. W. Smith), Fall Meeting of the American Geophysical Union (New Orleans), Abstract ED13C-0191, December 2017.

444. "University of New Hampshire's Project SMART 2017: Marine and Environmental Science for High School Students," R. K. Varner, J. Goelzer, R. Levergood, F. Sullivan, M. W. Palace, J. F. Haney, B. N. Rock, and C. W. Smith (presented by J. Goelzer), Fall Meeting of the American Geophysical Union (New Orleans), Abstract ED51A-06, December 2017.

445. "Radiation Risks From A Weak Field in the Coming Years," F. Rahmanifard, N. Schwadron, C. W. Smith, C. J. Joyce, and L. Townsend (presented by F. Rahmanifard), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SH31A-2719, December 2017.

446. "Messenger Observations of Low-Frequency Magnetic Waves due to Inner Source Pickup Protons," C. W. Smith, M. R. Argall, N. A. Schwadron, P. A. Isenberg, B. J. Vasquez, H. Korth, and B. Anderson (presented by C. W. Smith), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SH54A-07, December 2017.

447. "An Investigation of the Dayside Response of the Magnetosphere to Interplanetary Shocks: Dependence on Shock Parameters and Interplanetary Magnetic Field," K. Bergstedt, C. A. Cattell, C. A. Colpitts, S. Tian, J. R. Wygant, R. B. Torbert, C. Kletzing, R. Ergun, J. L. Burch, C. T. Russell, and C. W. Smith (presented by K. Bergstedt), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM11B-2311, December 2017.

448. "Van Allen Probes Observations of Drift-Bounce Resonance and Energy Transfer Between Energetic Ring Current Protons and Poloidal Pc4 Wave," S. Oimatsu, M. Nose, K. Takahashi, K. Yamamoto, K. Keika, C. A. Kletzing, C. W. Smith, R. J. MacDowall, D. G. Mitchell, and L. J. Lanzerotti (presented by S. Oimatsu), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM21A-2556, December 2017.

449. "Interactions between EMIC and Magnetosonic Wave Modes at Heavy Ion Boundaries," K. W. Paulson, R. B. Torbert, C. W. Smith, S. A. Boardsen, H. E. Spence, and S. A. Fuselier (presented by K. W. Paulson), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM21B-10, December 2017.

450. "Van Allen Probe measurements of intense Poynting Flux, magnetic dipolarization, and particle energization and auroral arcs," J. R. Wygant, S. Tian, S. A. Thaller, A. W. Breneman, C. A. Cattell, A. Engel, F. Mozer, J. W. Bonnell, C. C. Chaston, E. Donovan, E. Spanswick, G. Reeves, L. M. Kistler, C. Mouikis, M. Hudson, C. W. Smith, J. F. Fennell, J. B. Blake, D. L. Turner, D. N. Baker, and C. Kletzing (presented by J. R. Wygant), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM31A-2617, December 2017.

451. "Distinguishing Among Mechanisms That Determine Pi 2 Pulsation Period," K. Takahashi, R. Lysak, M. D. Hartinger, C. Kletzing, C. W. Smith, and H. Singer (presented by K. Takahashi), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM44A-04, December 2017.

452. "Statistics of EMIC Rising Tones Observed by the Van Allen Probes," K. M. Sigsbee, C. Kletzing, C. W. Smith, and O. Santolik (presented by K. M. Sigsbee), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM51B-2432, December 2017.

453. "Van Allen Probe Observations of EMIC Wave Propagation in the Inner Magnetosphere," A. Saikin, J. Zhang, C. W. Smith, H. E. Spence, R. B. Torbert, C. Kletzing, and J. R. Wygant (presented by A. Saikin), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM51B-2444, December 2017.

454. "Observations of Large Amplitude Chorus Waves in the Outer Radiation Belt: Van Allen Probes Statistical Study of Occurrence and Wave Properties Using EFW Filterbank Data," E. Tyler, A. W. Breneman, C. A. Cattell, K. Goetz, K. Kersten, S. A. Thaller, J. R. Wygant, J. W. Bonnell, L. Dai, C. Kletzing, D. Malaspina, A. Paradise, C. W. Smith, and J. Tao (presented by E. Tyler), Fall Meeting of the American Geophysical Union (New Orleans), Abstract SM51B-2456, December 2017.