Cumulative Curriculum Vitae

I. Professional Background

Name: Vladimir A. Florinski

Rank and Year Appointed to that Rank: Associate Professor, 2014

Year of Appointment to Graduate Faculty if applicable: 2008

Department: Space Science

Office Address: CH 2039

Academic Specialty (ies):

Degrees (include all degrees: bachelors, masters, and doctorate), (include title of degree, year awarded, institution, major, minor, and dissertation title):

Ph D, University of Arizona, 2001.
Major: Planetary Sciences
Supporting Areas of Emphasis: Theoretical Astrophysics
Dissertation Title: A self-consistent, two-dimensional model of galactic and anomalous cosmic rays in the solar wind

MS, St. Petersburg State Technical University, 1997.
Major: Physics
Supporting Areas of Emphasis: Space Physics
Dissertation Title: Solar-wind acceleration by energetic particles

II. Teaching Activities: Summary list of courses taught, theses advised

SPA 689, ST:SUPERCOMPUTER LAB, Spring 2021

SPA 662, COMPUTATIONAL PHYSICS, Fall 2020

SPA 741, PHYSICS OF COSMIC RAYS, Spring 2020

SPA 631, COMPUTATIONAL PHYSICS, Fall 2019

SPA 689, ST:COMPUTATIONAL PLASMA PHYSICS, Spring 2019

SPA 631, WAVES AND FIELDS, Spring 2018

SPA 631, COMPUTATIONAL PHYSICS, Fall 2017

SPA 689, ST:SUPERCOMPUTER LAB, Spring 2017

SPA 796, JOURNAL CLUB, Fall 2016

SPA 662, COMPUTATIONAL PHYSICS, Spring 2016

SPA 689, ST:COMPUTATIONAL PLASMA PHYSICS, Fall 2015

SPA 631, COMPUTATIONAL PHYSICS, Fall 2014

PH 789, ST:STOCHASTIC MTHD IN COMP PHY, Spring 2014

PH 662, COMPUTATIONAL PHYSICS, Fall 2013

PH 113, GEN PHYSICS W/CALC III, Spring 2013

PH 662, COMPUTATIONAL PHYSICS, Fall 2012

PH 251, SPECIAL RELATIVITY, Spring 2012

PH 662, COMPUTATIONAL PHYSICS, Fall 2011

PH 113, GEN PHYSICS W/CALC III, Fall 2010

PH 631, ELECTROMAGNETIC THEORY I, Spring 2010

PH 631, ELECTROMAGNETIC THEORY I, Fall 2009

PH 432, INTERM ELECTRIC & MAGNETISM II, Spring 2009

PH 431, INTERM ELECTRICI & MAGNETISM I, Fall 2008

Udara Senanayake, Ph.D. Dissertation “ACCELERATION AND TRANSPORT OF ANOMALOUS COSMIC RAYS AND INVESTIGATING THE SPECTRAL EVOLUTION AT VOYAGER 1”, 2015

Yihong Wu, Ph.D. Dissertation “PICKUP ION PRODUCTION IN THE GLOBAL HELIOSPHERE AND HELIOSHEATH”, 2016

Keyvan Ghanbari, Ph.D. Dissertation “Energy Dependent Modulation of the Galactic Cosmic Rays near Corotating Interaction Regions”, defense planned for 2021.

III. Research, Creative, and Scholarly Activity:

(List publications chronologically, by category, including authors, title, journal, volume, page, year published)

1. Books:

1.1 Florinski, V., Pogorelov, N. V., and Zank, G. P. (Editors), Physics of the Outer Heliosphere, Proceedings of the 3rd IGPP Conference, American Institute of Physics, Melville, New York (2004).

1.2 Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V. (Editors), Physics of the Inner Heliosheath, Proceedings of the 5th IGPP Conference, American Institute of Physics, Melville, New York (2006).

1.3 le Roux, J. A., Florinski, V., Zank, G. P., and Coates, A. J. (Editors), Pickup Ions throughout the Heliosphere and beyond, Proceedings of the 9th Annual International Astrophysics Conference, American Institute of Physics, Melville, New York (2010).

1.4 Florinski, V., Heerikhuisen, J., Zank, G. P., and Gallagher, D. L. (Editors), Partially Ionized Plasmas Throughout the Cosmos: Proceedings of the 2010 Huntsville Workshop, American Institute of Physics, Melville, New York (2011).

2. Refereed Journal Articles:

2.1 Florinski, V., and Jokipii, J. R., Solar-wind acceleration by energetic particles, Geophysical Research Letters, 24, 2383 (1997).

2.2 Florinski, V., and Jokipii, J. R., A two-dimensional, self-consistent model of galactic cosmic rays in the heliosphere, Astrophysical Journal Letters, 523, L185 (1999).

2.3 Florinski, V., Zank, G. P., and Pogorelov, N. V., Galactic cosmic ray transport in the global heliosphere, Journal of Geophysical Research, 108, 1228 (2003).

2.4 Florinski, V., and Jokipii, J. R., Cosmic-ray spectra at spherical termination shocks, Astrophysical Journal, 591, 454 (2003).

2.5 Florinski, V., and Zank, G. P., Comment on “On nonideal MHD properties of the partially ionized interstellar gas” by V. B. Baranov and H. J. Fahr, Journal of Geophysical Research, 108, 1438 (2003).

2.6 Florinski, V., Zank, G. P., and Axford, W. I., The solar system in a dense interstellar cloud: implications for cosmic-ray fluxes at Earth and 10Be records, Geophysical Research Letters, 30, 2206 (2003).

2.7 Florinski, V., Pogorelov, N. V., Zank, G. P., Wood, B. E., and Cox, D. P., On the possibility of a strong magnetic field in the local interstellar medium, Astrophysical Journal, 604, 700 (2004).

2.8 Zank, G. P., Li, G., Florinski, V., Matthaeus, W. H., Webb, G. M., and le Roux, J. A., The perpendicular diffusion coefficient for charged particles of arbitrary energy, Journal of Geophysical Research, 109, A04107 (2004).

2.9 Florinski, V., Axford, W. I., and Zank, G. P., The cosmic ray increases at 35 kyr and 60 kyr BP, Radiocarbon, 46, 683 (2004).

2.10 Florinski, V., Zank, G. P., Jokipii, J. R., Stone, E. C., and Cummings, A. C., Do anomalous cosmic rays modify the termination shock?, Astrophysical Journal, 610, 1169 (2004).

2.11 Florinski, V., Zank, G. P., and Pogorelov, N. V., Heliopause stability in the presence of neutral atoms: Rayleigh–Taylor dispersion analysis and axisymmetric MHD simulations, Journal of Geophysical Research, 110, A07104 (2005).

2.12 Florinski, V., Zank, G. P., and Pogorelov, N. V., Heliopause stability revisited: dispersion analysis and numerical simulations, Advances in Space Research, 35, 2061 (2005).

2.13 Zank, G. P., Li, G., Florinski, V., Hu, Q., Lario, D., and Smith, C. W., Particle acceleration at perpendicular shock waves: Model and observations, Journal of Geophysical Research, 111, A06108 (2006).

2.14 Heerikhuisen, J., Florinski, V., and Zank, G. P., Interaction between the solar wind and interstellar gas: A comparison between Monte Carlo and fluid approaches, Journal of Geophysical Research, 111, A06110 (2006).

2.15 Florinski, V., and Zank, G. P., Particle acceleration at a dynamic termination shock, Geophysical Research Letters, 33, L15110 (2006).

2.16 Müller, H.-R., Frisch, P. C., Florinski, V., and Zank, G. P., Heliospheric response to different possible interstellar environments, Astrophysical Journal, 647, 1491 (2006).

2.17 Heerikhuisen, J., Pogorelov, N. V., Zank, G. P., and Florinski, V., The effects of global heliospheric asymmetries on energetic neutral atom sky maps, Astrophysical Journal, 655, L53 (2007).

2.18 le Roux, J. A., Webb, G. M., Florinski, V., and Zank, G. P., A focused transport approach to pickup ion shock acceleration: implications for the termination shock, Astrophysical Journal, 662, 350 (2007).

2.19 Pogorelov, N. V., Stone, E. C., Florinski, V., and Zank, G. P., Termination shock asymmetries as seen by the Voyager spacecraft: the role of the interstellar magnetic field and neutral hydrogen, Astrophysical Journal, 668, 611 (2007).

2.20 Florinski, V., and Zank, G. P., Acceleration at the termination shock: anisotropies and spectra, Advances in Space Research, 41, 361 (2008).

2.21 Florinski, V., Decker, R. B., and le Roux, J. A., Pitch-angle distributions of energetic particles near the heliospheric termination shock, Journal of Geophysical Research, 113, A07103 (2008).

2.22 Heerikhuisen, J., Pogorelov, N. V., Florinski, V., Zank, G. P., and le Roux, J. A., The effects of a κ-distribution in the heliosheath on the global heliosphere and ENA flux at 1 AU, Astrophysical Journal, 682, 679 (2008).

2.23 Müller, H.-R., Florinski, V., Heerikhuisen, J., Izmodenov, V. V., Scherer, K., Alexashov, D., and Fahr, H.-J., Comparing various multi-component global heliosphere models, Astronomy and Astrophysics, 491, 43 (2008).

2.24 Florinski, V., Pickup ion acceleration at the termination shock and in the heliosheath, Space Science Reviews, 143, 111 (2009).

2.25 Florinski, V., Balogh, A., Jokipii, J. R., McComas, D. J., Opher, M., Pogorelov, N. V., Richardson, J. D., Stone, E. C., Wood, B. E., The dynamic heliosphere: outstanding issues, Space Science Reviews, 143, 57 (2009).

2.26 Florinski, V., Decker, R. B., le Roux, J. A., and Zank, G. P., An energetic-particle-mediated termination shock observed by Voyager 2, Geophysical Research Letters, 36, L12101 (2009).

2.27 Florinski, V., and Pogorelov, N. V., Four-dimensional transport of galactic cosmic rays in the outer heliosphere and heliosheath, Astrophysical Journal, 701, 642 (2009).

2.28 Zank, G. P., Pogorelov, N. V., Heerikhuisen, J., Washimi, H., Florinski, V., Borovikov, S., Kryukov, I., and Müller, H.-R., Physics of the solar wind-local interstellar medium interaction: role of magnetic fields, Space Science Reviews, 146, 295 (2009).

2.29 Florinski, V., Zank, G. P., Heerikhuisen, J., Hu, Q., and Khazanov, I., Stability of a pickup ion ring-beam population in the outer heliosheath: implications for the IBEX ribbon, Astrophysical Journal, 719, 1097 (2010).

2.30 Florinski, V., On the transport of cosmic rays in the distant heliosheath, Advances in Space Research, 48, 308 (2011).

2.31 Zank, G. P., Dosch, A., Hunana, P., Florinski, V., Matthaeus, W. H., and Webb, G. M., The transport of low-frequency turbulence in astrophysical flows I. Governing equations, Astrophysical Journal, 745, 35 (2012).

2.32 Florinski, V., Alouani-Bibi, F., Kota, J., and Guo, X., Cosmic-ray diffusion in a sectored magnetic field in the distant heliosheath, Astrophysical Journal, 754, 31 (2012).

2.33 Washimi, H., Webber, W. R., Zank, G. P., Hu, Q., Florinski, V., Adams, J. H., and Kubo, Y., A role of magnetosonic pulses on variations of Voyager-1 MeV electron intensity in the heliosheath, Astrophysical Journal Letters, 757, L2 (2012).

2.34 Florinski, V., Ferreira, S. E. S., and Pogorelov, N. V., Galactic cosmic rays in the outer heliosphere: theory and models, Space Science Reviews, 176, 147 (2013).

2.35 Florinski, V., Guo, X., Balsara, D. S., and Meyer, C., Magnetohydrodynamic modeling of solar system processes on geodesic grids, Astrophysical Journal Supplement Series, 205, 19 (2013).

2.36 Florinski, V., Jokipii, J. R., le Roux, J. A., and Aloiani-Bibi, F., Energetic particle anisotropies at the heliospheric boundary, Astrophysical Journal Letters, 776, L37 (2013).

2.37 Senanayake, U., and Florinski, V., Is the acceleration of anonymous cosmic rays affected by the geometry of the termination shock? Astrophysical Journal, 778, 122 (2013).

2.38 Fujiku, K., Washimi, H., Hyashi, K., Zank, G. P., Tokamuru, M., Tanaka, T., Florinski, V., and Kubo, Y., MHD analysis of the velocity oscillations in the outer heliosphere, Geophysical Research Letters, 41, 1420 (2014).

2.39 Guo, X., and Florinski, V., Corotating interaction regions and the 27-day variation of galactic cosmic rays intensity at 1 AU during the cycle 23/24 solar minimum, Journal of Geophysical Research, 119, 2411 (2014).

2.40 Burlaga, L. F., Ness, N. F., Florinski, V., and Heerikhuisen, J., Magnetic field fluctuations observed in the heliosheath and interstellar magnetic field by Voyager 1 at 115.7-124.9 AU during 2011-2013, Astrophysical Journal, 792, 134 (2014).

2.41 Guo, X., and Florinski, V., Galactic cosmic-ray modulation near the heliopause, Astrophysical Journal, 793, 18 (2014).

2.42 Florinski, V., Stone, E. C., Cummings, A. C., and le Roux, J. A., Energetic particle anisotropies at the heliospheric boundary. II. Transient features and rigidity dependence, Astrophysical Journal, 803, 47 (2015).

2.43 Senanayake, U., Florinski, V., A. C. Cummings, and E. C. Stone, Spectral evolution of anomalous cosmic rays at Voyager 1 beyond the termination shock, Astrophysical Journal, 804, 12 (2015).

2.44 Burlaga, L. F., Florinski, V., and Ness, N. F., In situ observations of magnetic turbulence in the local interstellar medium, Astrophysical Journal Letters, 804, L31 (2015).

2.45 Florinski, V., Magnetic flux tube interchange at the heliopause, Astrophysical Journal, 813, 49 (2015).

2.46 Guo, X., and Florinski, V., Galactic cosmic-ray intensity modulation by corotating interaction region stream interfaces at 1 AU.” Astrophysical Journal, 826, 65 (2016).

2.47 Florinski, V., Heerikhuisen, J., Niemiec, J., and Ernst, A., The IBEX ribbon and the pickup ion ring stability in the outer heliosheath I. Theory and hybrid simulations, Astrophysical Journal, 826, 197 (2016).

2.48 Niemiec, J., Florinski. V., Heerikhuisen. J., and Nishikawa, K.-I., The IBEX ribbon and the pickup ion ring stability in the outer heliosheath II. Monte-Carlo and PIC model results, Astrophysical Journal, 826, 198 (2016).

2.49 Wu, Y., Florinski, V., and Guo, X., Interstellar pickup ion production in the global heliosphere and heliosheath, Astrophysical Journal, 832, 61 (2016).

2.50 Guo, X., Florinski, V., and Wang, C., The HLLD Riemann solver based on magnetic field decomposition method for the numerical simulation of magnetohydrodynamics, Journal of Computational Physics, 327, 543 (2016).

2.51 Kasper, J. C., Abiad, R., Austin, G., Balat-Pichelin, M., Bale, S. D., Belcher, J. W., Berg, P., et al., Solar Wind Electrons Alphas and Protons (SWEAP) Investigation: Design of the Solar Wind and Coronal Plasma Instrument Suite for Solar Probe Plus, Space Science Reviews, 204, 131 (2016).

2.52 Florinski, V., and Heerikhuisen, J., Kinetic properties of the neutral solar wind, Astrophysical Journal, 838, 50 (2017).

2.53 Burlaga, L. F., V. Florinski, and Ness, N. F., Turbulence in the outer heliosheath, Astrophysical Journal, 854, 20 (2018).

2.54 Guo, X., V. Florinski, and C. Wang. Effects of Anomalous Cosmic Rays on the Structure of the Outer Heliosphere, Astrophysical Journal, 859, 157 (2018).

2.55 Balsara, D. S., Florinski, V., Garain, S., Subramanian, S., and Gurski, K. F., Efficient, divergence-free, high-order MHD on 3D spherical meshes with optimal geodesic meshing, Monthly Notices of the Royal Astronomical Society, 487, 1283 (2019).

2.56 Guo, X., Florinski, V., and Wang, C., A global MHD simulation of outer heliosphere including anomalous cosmic rays." Astrophysical Journal, 879, 87 (2019).

2.57 Ghanbari, K., Florinski, V., Guo, X., Hu, Q., and Leske, R. A., Galactic cosmic ray modulation in the vicinity of corotating interaction regions: Observations during the last two solar minima, Astrophysical Journal, 882, 54 (2019).

2.58 Balsara, D. S., Garain, S., Florinski, V., and Boscheri, W., An efficient class of WENO schemes with adaptive order for unstructured meshes, Journal of Computational Physics, 404, 109062 (2020).

2.59 Florinski, V., Balsara, D. S., Garain, S., and Gurski, K. F., Technologies for supporting high-order geodesic mesh frameworks for computational astrophysics and space sciences, Computational Astrophysics and Cosmology, 7, 1 (2020).

2.60 Wang, Y. X., Guo, X. C., Wang, C., Florinski, V., Shen, F., Li, H., and Blanc. M., MHD modeling of the background solar wind in the inner heliosphere from 0.1 to 5.5 AU: Comparison with in situ observations, Space Weather, 18, e2019SW002262 (2020).

2.61 Zieger, B., Opher, M., Tóth, G., and Florinski. V., Dispersive fast magnetosonic waves and shock-driven compressible turbulence in the inner heliosheath, Journal of Geophysical Research: Space Physics, 125, e2020JA028393 (2020).

3. Abstracts and Papers Delivered at Professional Meetings:

3.1 "A two-dimensional, self-consistent model of anomalous cosmic rays in the solar wind", 1st Annual International Astrophysics Conference "Particle Transport and Acceleration in Cosmic Plasmas", Lake Arrowhead, CA, February 9–13, 2002.

3.2 "Galactic cosmic-ray transport in the global heliosphere", 2002 American Geophysical Union Fall Meeting, San Francisco, CA, December 6–10, 2002.

3.3 "Galactic cosmic-ray transport in the global heliosphere", 2nd Annual International Astrophysics Conference "Turbulence in the Interplanetary and Interstellar Medium: Theory, Observations, and Ramifications", Palm Springs, CA, February 9–12 2003.

3.4 "The global heliosphere: theory and models", 3rd Annual International Astrophysics Conference "Physics of the Outer Heliosphere", Riverside, CA, February 8–13, 2004.

3.5 "Solar system environment effects on cosmic-ray propagation in the heliosphere: consequences for cosmogenic isotope production", 2004 Solar, Heliospheric and Interplanetary Environment Workshop, Big Sky, MT, June 27–July 2, 2004.

3.6 "Cosmic ray propagation in the heliosphere", 1st Asia Oceania Geosciences Society Annual Meeting, Singapore, July 5–9, 2004.

3.7 “Physical processes in the heliosheath: theoretical predictions”, Solar Wind 11 – SOHO 16 Conference, Whistler, Canada, June 12–17, 2005.

3.8 “Dynamical evolution of the termination shock: consequences for charged particle acceleration”, 5th Annual International Astrophysics Conference “Physics of the Inner Heliosheath: Voyager Observations, Theory, and Future Prospects”, Honolulu, HI, March 3–9, 2006.

3.9 “Cosmic ray interaction with plasma flows in the heliosphere”, 1st International Conference on Numerical Modeling of Space Plasma Flows, Palm Springs, CA, March 27–30, 2006.

3.10 “Three-dimensional transport of cosmic rays in the heliosphere”, 2nd International Conference on Numerical Modeling of Space Plasma Flows, Paris, France, June 11–15, 2007.

3.11 “Particle acceleration at shocks: beyond the diffusion approximation”, XXIV International Union of Geodesy and Geophysics General Assembly, Perugia, Italy, July 2–13, 2007.

3.12 “Particle acceleration and compression at the termination shock and in the heliosheath”, 7th Annual International Astrophysics Conference “Particle Acceleration and Transport in the Heliosphere and Beyond”, Princeville, HI, March 7–13, 2008.

3.13 “Acceleration at a dynamic termination shock near a solar minimum”, 2008 Solar, Heliospheric and Interplanetary Environment Workshop, Midway, UT, June 23–27, 2008.

3.14 “Transport of galactic cosmic rays in the three-dimensional heliosheath”, 2008 Huntsville Workshop “The Physical Processes for Energy and Plasma Transport Across Magnetic Boundaries”, Huntsville, AL, October 26–31, 2008.

3.15 “Transport of galactic cosmic rays in the 3D heliosheath during solar minimum”, Voyagers in the Heliosheath Conference, Poipu Beach, HI, January 9–14, 2009

3.16 “Stability of pickup ion rings in the outer heliosheath”, 9th Annual International Astrophysics Conference “Pickup Ions throughout the Heliosphere and beyond”, Maui, HI, March 14–19, 2010.

3.17 “The modulation of galactic cosmic rays in the distant heliosphere”, 38th Committee on Space Research (COSPAR) Scientific Assembly, Bremen, Germany, July 18–25, 2010.

3.18 “Pickup ions in the local interstellar medium”, 2010 Huntsville Workshop “Partially Ionized Plasmas throughout the Cosmos”, Nashville, TN, October 3–8, 2010.

3.19 “Cosmic ray transport in the distant heliosheath”, 10th Annual International Astrophysics Conference “Physics of the Heliosphere: a Ten-Year Retrospective”, Maui, HI, March 13–18, 2011.

3.20 “Heliospheric modeling on geodesic grids”, 6th International Conference on Numerical Modeling of Space Plasma Flows, Valencia, Spain, June 13–17, 2011.

3.21 “Cosmic rays in the heliosheath: Effects of the wavy current sheet”, 39th Committee on Space Research (COSPAR) Scientific Assembly, Mysore, India, July 14–22, 2012.

3.22 “Transport and acceleration of anomalous cosmic rays”, 39th Committee on Space Research (COSPAR) Scientific Assembly, Mysore, India, July 14–22, 2012.

3.23 “Heliospheric particles at the edge of the solar system”, 2013 IAGA (International Association of Geomagnetism and Aeronomy) Meeting, Merida, Mexico, August 26-30, 2013.

3.24 “The Voyager boundary - a magnetic shear interface?”, 2013 American Geophysical Union Fall Meeting, San Francisco, CA, December 9–13, 2013.

3.25 “Magnetic shear, turbulence, ACRs, and GCRs at the heliospheric interface”, 13th Annual International Astrophysics Conference “Voyager, IBEX, and the Interstellar Medium”, Myrtle Beach, SC, March 10–14, 2014.

3.26 “The ribbon of the rings: the stability of the rings”, 15th Annual International Astrophysics Conference “The Science of Ed Stone: Celebrating his 80th Birthday”, Cape Coral, FL, April 4-8, 2016.

3.27 “Large-scale magnetic fluctuations in the outer heliosheath and galactic cosmic-ray depletions at the 90^{o} pitch angle (invited)”, 16th Annual International Astrophysics Conference, Santa Fe, NM, March 6-10, 2017.

3.28 “Magnetic field fluctuations and energetic particles at the boundary of the heliosphere (invited)”, 2017 IAGA Meeting, Cape Town, South Africa, August 27-September 1, 2017.

3.29 “Learning about the VLISM from the Voyagers (invited)”, 2017 American Geophysical Union Fall Meeting, New Orleans, LA, December 11–15, 2017.

3.30 “Solar wind acceleration by energetic particles”, 1997 American Geophysical Union Spring Meeting, Baltimore, MD, May 27–30, 1997.

3.31 “A two-dimensional self-consistent model of galactic cosmic rays in the heliosphere”, 26th International Cosmic Ray Conference, Salt Lake City, UT, August17–25, 1999.

3.32 “Galactic cosmic ray-modified heliosphere: an axisymmetric model” (poster), Solar Wind 10 Conference, Pisa, Italy, June 17–21, 2002.

3.33 “Cosmic-ray spectra at spherical shocks” (poster), 2002 American Geophysical Union Fall Meeting, San Francisco, CA, December 6–10, 2002.

3.34 “Galactic cosmic-ray interactions in the global heliosphere: a self-consistent approach” (presented by G. P. Zank), International Union of Geodesy and Geophysics 2003 General Assembly, Sapporo, Japan, June 30–July 11, 2003.

3.35 “Galactic cosmic-ray interactions with the outer heliosphere: a self-consistent approach”, 28th International Cosmic Ray Conference, Tsukuba, Japan, July 31–August 7, 2003.

3.36 “Heliospheric termination shock mediation by anomalous cosmic rays: insights from recent Voyager data”, 28th International Cosmic Ray Conference, Tsukuba, Japan, July 31–August 7, 2003.

3.37 “Is the local interstellar medium strongly magnetized?”, 2003 American Geophysical Union Fall Meeting, San Francisco, CA, December 8–12, 2003.

3.38 “Heliopause stability revisited: dispersion analysis and MHD simulations” (poster), 35th Committee on Space Research (COSPAR) Scientific Assembly, Paris, France, July 18–25, 2004.

3.39 “Heliopause stability in the presence of charge exchange” (poster), 2004 American Geophysical Union Fall Meeting, San Francisco, CA, December 13–17, 2004.

3.40 “The effect of the changing solar system environment on galactic cosmic ray propagation through the heliosphere: consequences for cosmogenic isotope production in the Earth's atmosphere” (poster), 2004 American Geophysical Union Fall Meeting, San Francisco, CA, December 13–17, 2004.

3.41 “Galactic cosmic ray response to heliospheric environment changes and implications for cosmogenic isotope records”, 29th International Cosmic Ray Conference, Pune, India, August 2–10, 2005.

3.42 “The interaction of solar wind structures with the termination shock and anomalous cosmic ray enhancements at low energies” (poster), 29th International Cosmic Ray Conference, Pune, India, August 2–10, 2005.

3.43 “Energetic particle acceleration and spectra at an evolving termination shock”, 2005 American Geophysical Union Fall Meeting, San Francisco, CA, December 4–9, 2005.

3.44 “Interstellar environment change: effects on heliospheric structure, galactic cosmic ray modulation and cosmogenic isotope production” (poster), 2005 American Geophysical Union Fall Meeting, San Francisco, CA, December 4–9, 2005.

3.45 “Acceleration at an evolving termination shock: particle spectra and anisotropies”, 36th Committee on Space Research (COSPAR) Scientific Assembly, Beijing, China, July 16–23, 2006.

3.46 “Energetic particle anisotropies at the termination shock”, 2006 American Geophysical Union Fall Meeting, San Francisco, CA, December 11–15, 2006.

3.47 “Modeling galactic cosmic rays in the 3D heliosphere: first results” (poster), 2006 American Geophysical Union Fall Meeting, San Francisco, CA, December 11–15, 2006.

3.48 “Pitch-angle distributions and anisotropies of energetic particles at the termination shock: theory vs. Voyager observations”, 2007 Joint Assembly / AGU Spring Meeting, Acapulco, Mexico, May 22–25, 2007.

3.49 “Acceleration at the termination shock: the pitch-angle perspective”, 2007 American Geophysical Union Fall Meeting, San Francisco, CA, December 10–14, 2007.

3.50 “Galactic cosmic ray transport in the three-dimensional heliosheath”, 2008 American Geophysical Union Fall Meeting, San Francisco, CA, December 15–19, 2008.

3.51 “An energetic particle-mediated termination shock observed by Voyager 2” (poster), 12th International Solar Wind Conference, Saint-Malo, France, June 21–26, 2009.

3.52 “Mediation of the termination shock by low-energy anomalous cosmic rays”, 2009 Solar, Heliospheric and Interplanetary Environment (SHINE) Workshop, Wolfville, NS, Canada, Aug 3–7, 2009.

3.53 “Acceleration of the low-energy anomalous cosmic ray component observed by Voyager 2”, 2009 American Geophysical Union Fall Meeting, San Francisco, CA, December 14–18, 2009.

3.54 “Galactic cosmic rays in the outer heliosphere” (poster), 2010 American Geophysical Union Fall Meeting, San Francisco, CA, December 13–17, 2010.

3.55 “Cosmic rays in the distant heliosheath”, 32nd International Cosmic Ray Conference, Beijing, China, August 11–18, 2011.

3.56 “A new concept of cosmic ray diffusion in the heliosheath”, 2011 American Geophysical Union Fall Meeting, San Francisco, CA, December 5–9, 2011.

3.57 “Cosmic rays at the edge of the solar system” (poster), 2012 American Geophysical Union Fall Meeting, San Francisco, CA, December 3–7, 2012.

3.58 “The global heliosphere during the past solar minimum: consequences for cosmic rays”, AGU Chapman Conference, Key Largo, FL, April 8-12, 2013.

3.59 “Energetic particles enter the magnetic highway” (poster), 2013 Meeting of the Americas, Cancun, Mexico, May 14-17, 2013.

3.60 “Pickup ions in the distant heliosphere and heliosheath” (poster), 2013 American Geophysical Union Fall Meeting, San Francisco, CA, December 9–13, 2013.

3.61 “Pickup ions in the distant heliosphere and heliosheath”, 40th Committee on Space Research (COSPAR) Scientific Assembly, Moscow, Russia, August 1–11, 2014.

3.62 “Magnetic turbulence in the outer heliosheath: implications for pickup ions and the ribbon” (poster), 2014 American Geophysical Union Fall Meeting, San Francisco, CA, December 15–19, 2014.

3.63 “Cosmic rays at and beyond the boundary of the heliosphere”, 34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30–August 6, 2015.

3.64 “Revisiting stability of pickup ion rings in the outer heliosheath” (poster), 2015 American Geophysical Union Fall Meeting, San Francisco, CA, December 14–18, 2015.

3.65 “Cosmic ray anisotropies and magnetic turbulence beyond the heliopause” (poster) , 2016 American Geophysical Union Fall Meeting, San Francisco, CA, December 12–16, 2016.

3.66 “Cosmic rays in the VLISM (invited)”, 42 COSPAR Scientific Assembly, Pasadena, CA, July 14–22, 2018.

3.67 “Shocks and turbulence in the VLISM (invited)”, 42 COSPAR Scientific Assembly, Pasadena, CA, July 14–22, 2018.

3.68 “Some properties of the heliopause during Voyager 1 and 2 crossings (invited)”, 18th Annual International Astrophysics Conference, Pasadena, CA, February 18-22, 2019.

3.69 “Some properties of the heliopause during Voyager 1 and 2 crossings”, 2019 Midwest Magnetic Fields Meeting, Madison, WI, May 6, 2019.

3.70 “Magnetic field topology beyond the heliopause: Consequences for cosmic rays”, 2019 American Geophysical Union Fall Meeting, San Francisco, CA, December 9–13, 2019.

3.71 “Galactic cosmic rays in the local ISM: implications for the Interstellar Probe”, 3rd Interstellar Probe Exploration Workshop, Online, November 19, 2020.

3.72 “Magnetic fields in the outer heliosheath, particle trapping, and a promising direction to explore with the Interstellar Probe”, 2020 American Geophysical Union Fall Meeting, Online, December 1–17, 2020.

4. Other Publications:

4.1 Florinski, V., Zank, G. P., and Pogorelov, N. V., Galactic cosmic rays in the global heliosphere: an axisymmetric model, in Solar Wind 10, AIP Conf. Proc., Vol. 679, edited by Velli, M., Bruno, R., and Malara, F., 644 (2003).

4.2 Florinski, V., Pogorelov, N. V., and Zank, G. P., The global heliosphere: theory and models, in Physics of the Outer Heliosphere, AIP Conf. Proc., Vol. 719, edited by Florinski, V., Pogorelov, N. V., and Zank, G. P., 28 (2004).

4.3 Zank, G. P., Ao, X., Axford, W. I., Florinski, V., Li, G., le Roux, J. A., and Webb, G. M., Structure and properties of the termination shock, in Physics of the Outer Heliosphere, AIP Conf. Proc., Vol. 719, edited by Florinski, V., Pogorelov, N. V., and Zank, G. P., 329 (2004).

4.4 Zank, G. P., Li, G., Webb, G. M., le Roux, J. A., Florinski, V., Ao, X., and Rice, W. K. M., Particle acceleration at collisionless shocks: an overview, in The Physics of

Collisionless Shocks, AIP Conf. Proc., Vol. 781, edited by Li, G., Zank, G. P., and Russel, C. T., 170 (2005).

4.5 Zank, G. P., Müller, H.-R., Florinski, V., and Frisch, P. C., Heliospheric variation in response to changing interstellar environments, in Solar Journey: the Significance of our Galactic Environment for the Heliosphere and Earth, edited by Frisch, P. C., 23, Kluwer, Dordrecht (2006).

4.6 Florinski, V., and Zank, G. P., The galactic cosmic ray intensity in the heliosphere in response to variable interstellar environments, in Solar Journey: the Significance of our Galactic Environment for the Heliosphere and Earth, edited by Frisch, P. C., 281, Kluwer, Dordrecht (2006).

4.7 Dasgupta, B., Florinski, V., Heerikhuisen, J., and Zank, G. P., MHD instabilities at the heliopause, in Physics of the Inner Heliosheath, AIP Conf. Proc., Vol. 858, edited by Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V., 51 (2006).

4.8 Florinski, V., and Zank, G. P., Dynamical evolution of the termination shock: consequences for charged particle acceleration, in Physics of the Inner Heliosheath, AIP Conf. Proc., Vol. 858, edited by Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V., 159 (2006).

4.9 Heerikhuisen, J., Pogorelov, N. V., Florinski, V., and Zank, G. P., Observing heliospheric neutral atoms at 1 AU, in Physics of the Inner Heliosheath, AIP Conf. Proc., Vol. 858, edited by Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V., 263 (2006).

4.10 Medvedev, M. V., Robertson, I. P., Cravens, T. E., Zank, G. P., and Florinski, V., Charge exchange X-rays from the heliosheath, in Physics of the Inner Heliosheath, AIP Conf. Proc., Vol. 858, edited by Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V., 348 (2006).

4.11 Zank, G. P., Pogorelov, N. V., Raeder, J., Florinski, V., Heerikhuisen, J., Shaikh, D., Kryukov, I. A., and Borovikov, S. N., Simulation coupling complexity in space plasmas, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2006, ASP Conf. Ser., Vol. 359, edited by Pogorelov, N. V., and Zank, G. P., 62 (2006).

4.12 Florinski, V., Cosmic ray interaction with plasma flows in the heliosphere, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2006, ASP Conf. Ser., Vol. 359, edited by Pogorelov, N. V., and Zank, G. P., 77 (2006).

4.13 Heerikhuisen, J., Florinski, V., Zank, G. P., and Pogorelov, N. V., MHD-Boltzman simulations of the solar wind–interstellar medium interaction, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2006, ASP Conf. Ser., Vol. 359, edited by Pogorelov, N. V., and Zank, G. P., 245 (2006).

4.14 Florinski, V., and Pogorelov, N. V., Four-dimensional transport of cosmic rays in the heliosphere, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2007, ASP Conf. Ser., Vol. 385, edited by Pogorelov, N. V., Audit, E., and Zank, G. P., 18 (2008).

4.15 Pogorelov, N. V., Zank, G. P., Borovikov, S. N., Florinski, V., Heerikhuisen, J., and Kryukov, I. A., MHD-neutral modeling of the outer heliosphere, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2007, ASP Conf. Ser., Vol. 385, edited by Pogorelov, N. V., Audit, E., and Zank, G. P., 180 (2008).

4.16 Heerikhuisen, J., Pogorelov, N. V., Florinski, V., and Zank, G. P., Modeling kinetic neutral atoms in the solar-wind/interstellar-medium interaction region, in Numerical Modeling of Space Plasma Flows ASTRONUM-2007, ASP Conf. Ser., Vol. 385, edited by Pogorelov, N. V., Audit, E., and Zank, G. P., 204 (2008).

4.17 Florinski, V., Decker, R. B., and le Roux, J. A., Low-energy particle acceleration and compression at the termination shock and in the heliosheath , in Particle Acceleration and Transport in the Heliosphere and Beyond, AIP Conf. Proc., Vol. 1039, edited by Li, G. et al., 361 (2008).

4.18 Florinski, V., Galactic cosmic ray transport in the global heliosphere: a four dimensional stochastic model, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2008, ASP Conf. Ser., Vol. 406, edited by Pogorelov, N. V., Audit, E., Colella, P., and Zank, G. P., 3 (2009).

4.19 Pogorelov, N. V., Borovikov, S. N., Florinski, V., Heerikhuisen, J., Kryukov, I. A., and Zank, G. P., Multi-scale fluid-kinetic simulation suite: a tool for efficient modeling of space plasma flows, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2008, ASP Conf. Ser., Vol. 406, edited by Pogorelov, N. V., Audit, E., Colella, P., and Zank, G. P., 149 (2009).

4.20 Heerikhuisen, J., Pogorelov, N. V., Florinski, V., Zank, G. P., and Kharchenko, V., Kinetic modeling of neutral atom transport in the heliosphere, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2008, ASP Conf. Ser., Vol. 406, edited by Pogorelov, N. V., et al., 189 (2009).

4.21 Florinski, V., Decker, R. B., and Zank, G. P., Mediation of the heliospheric termination shock by termination-shock-accelerated particles, in Solar Wind 12, AIP Conf. Proc., Vol. 1216, edited by Maksimovic, M., 576 (2010).

4.22 Florinski, V., Zank, G. P., and Heerikhuisen, J., Stability of pickup ion rings in the outer heliosphere and LISM, in Pickup Ions throughout the Heliosphere and Beyond, AIP Conf. Proc., Vol. 1302, edited by le Roux, J. A. et al., 192 (2010).

4.23 Zank, G. P., Hunana, P., Shaikh, D., Florinski, V., and Webb, G. M., The transport of low frequency turbulence throughout the heliosphere, in Pickup Ions throughout the Heliosphere and Beyond, AIP Conf. Proc., Vol. 1302, edited by le Roux, J. A. et al., 167 (2010).

4.24 Dasgupta, B., Florinski, V., Zank, G. P., Bandyopadhyay, A., Avinash, K., and Heerikhuisen, J., Heliopause instability driven by plasma-neutral interaction: linear analysis from fluid model, in Partially Ionized Plasmas Throughout the Cosmos: Proceedings of the 2010 Huntsville Workshop, AIP Conf. Proc., Vol. 1366, edited by Florinski, V., et al., 77 (2011).

4.25 Florinski, V., The heliospheric current sheet and cosmic-ray transport in the heliosheath, in Physics of the Heliosphere: A 10 Year Retrospective, AIP Conf. Proc., Vol. 1436, edited by Heerikhuisen, J., et al., 124 (2012).

4.26 Washimi, H., Hayashi, K., Tokumaru, M., Zank, G. P., Hu, Q., Tanaka, T., Florinski, V., Adams, J., and Kubo, Y., A preliminary analysis of dynamic and realistic heliosphere using interplanetary scintillation and photospheric magnetic data, in Physics of the Heliosphere: A 10 Year Retrospective, AIP Conf. Proc., Vol. 1436, edited by Heerikhuisen, J., et al., 350 (2012).

4.27 Florinski, V., Guo, X., Balsara, D. S., and Meyer, C., Heliospheric modeling on geodesic grids, in Numerical Modeling of Space Plasma Flows: ASTRONUM-2011, ASP Conf. Ser., Vol. 459, edited by Pogorelov, N. V., Font, J. A., Audit, E., and Zank, G. P., 304 (2012).

4.28 Florinski, V., and Alouani-Bibi, F., Cosmic-ray diffusion in the heliosheath: the effects of scattering and the current sheet drift, in Space Weather: The Space Radiation Environment, AIP Conf. Proc., Vol. 1500, edited by Hu, Q., et al., 228 (2012).

4.29 Senanayake, U. K., and Florinski, V., Acceleration of anomalous cosmic rays at the termination shock, in Space Weather: The Space Radiation Environment, AIP Conf. Proc., Vol. 1500, edited by Hu, Q., et al., 255 (2012).

4.30 Florinski, V., and Jokipii, J. R., A two-dimensional, self-consistent model of galactic cosmic rays in the heliosphere, in Proceedings of the 26th International Cosmic Ray Conference (Salt Lake City), edited by Kieda, D., Salamon, M., and Dingus, B., 7, 5 (1999).

4.31 Florinski, V., and Zank, G. P., Galactic cosmic-ray interactions with the outer heliosphere: a self-consistent approach, in Proceedings of the 28th International Cosmic Ray Conference (Tsukuba), edited by Kajita, T., Asaoka, Y., Kawachi, A., Matsubara, Y., and Sasaki, M., 3843 (2004).

4.32 Florinski, V., Jokipii, J. R., Stone, E. C., Cummings, A. C., and Zank, G. P., Heliospheric termination shock mediation by anomalous cosmic rays: insights from recent Voyager data, in Proceedings of the 28th International Cosmic Ray Conference (Tsukuba), edited by Kajita, T., Asaoka, Y., Kawachi, A., Matsubara, Y., and Sasaki, M., 3757 (2004).

4.33 Florinski, V., Zank, G. P., Heerikhuisen, J., Pogorelov, N. V., and Dasgupta, B., Physical processes in the heliosheath: theoretical predictions, in Proceedings of Solar Wind 11 – SOHO 16 “Connecting Sun and Heliosphere”, ESA SP-592, edited by Fleck, B., and Zurbuchen, T. H., 7 (2005).

4.34 Robertson, I. P., Cravens, T. E., Medvedev, M. V., Collier, M. R., Zank, G. P., and Florinski, V., X-ray emissions from charge exchange in the heliosphere, in Proceedings of Solar Wind 11 – SOHO 16 “Connecting Sun and Heliosphere”, ESA SP-592, edited by Fleck, B., and Zurbuchen, T. H., 41 (2005).

4.35 Zank, G. P., Li, G., and Florinski, V., Particle acceleration at perpendicular shocks, in Proceedings of Solar Wind 11 – SOHO 16 “Connecting Sun and Heliosphere”, ESA SP-592, edited by Fleck, B., and Zurbuchen, T. H., 95 (2005).

4.36 Heerikhuisen, J., Florinski, V., Zank, G. P., and Müller, H.-R., Interaction of the solar wind with interstellar neutral gas: a comparison between self-consistent Monte-Carlo and multi-fluid approaches, in Proceedings of Solar Wind 11 – SOHO 16 “Connecting Sun and Heliosphere”, ESA SP-592, edited by Fleck, B., and Zurbuchen, T. H., 339 (2005).

4.37 Müller, H.-R., Frisch, P. C., Florinski, V., and Zank, G. P., Heliospheric response to changes in the galactic environment, in Proceedings of Solar Wind 11 – SOHO 16 “Connecting Sun and Heliosphere”, ESA SP-592, edited by Fleck, B., and Zurbuchen, T. H., 371 (2005).

4.38 Florinski, V., Zank, G. P., and Pogorelov, N. V., The interaction of solar wind structures with the termination shock and anomalous cosmic ray enhancements at low energies, in Proceedings of the 29th International Cosmic Ray Conference (Pune), edited by Acharya, B. S., Gupta, S., Jagadeesan, P., Jain, A. Karthikeyan, S., Morris, S., and Tonwar, S., 2, 19 (2006).

4.39 Florinski, V., and Zank, G. P., Galactic cosmic ray response to heliospheric environment changes and implications for cosmogenic isotope records, in Proceedings of the 29th International Cosmic Ray Conference (Pune), edited by Acharya, B. S., Gupta, S., Jagadeesan, P., Jain, A. Karthikeyan, S., Morris, S., and Tonwar, S., 2, 263 (2006).

4.40 Li, G., Webb, G. M., le Roux, J. A., Wiedenbeck, M., Florinski, V., and Zank, G. P., Modeling the transport of cosmic ray due to long term variation using a stochastic differential method, in Proceedings of the 31nd International Cosmic Ray Conference (Lodz), paper 1361 (2009).

4.41 Florinski, V., Adams, J. H., and Washimi, H., Cosmic-ray transport in the distant heliosheath, in Proceedings of the 32nd International Cosmic Ray Conference (Beijing), Vol. 11, 60 (2011).

4.42 Florinski, V., Cosmic-ray transport in the heliosphere: a global perspective, in Centenary Symposium 2012: Discovery of Cosmic Rays, AIP Conf. Proc., Vol. 1516, edited by Ormes, J., 102 (2013).

4.43 Florinski, V., Stone, E. C., Cummings, A. C., and le Roux, J. A., Cosmic rays beyond the boundary of the heliosphere, in Proceedings of the 34th International Cosmic Ray Conference (The Hague), paper 214 (2016).

4.44 Niemiec, J., Florinski, V., Heerikhuisen, J., and Nishikawa, K.-I., Pick-up ion scattering in the outer heliosheath – Implications for IBEX and Voyager 1 observations, in Proceedings of the 34th International Cosmic Ray Conference (The Hague), paper 179 (2016).

4.45 Florinski, V., The ribbon of the rings: the stability of the rings.” *Journal of Physics: Conference Series*, 767, 012009 (2016).

5. Performances:

6. Exhibitions:

7. Invited Colloquia, Seminars and Presentations:

7.1 “Non-standard models of the heliospheric interface”, Committee on Solar and Space Physics Exploration of the Outer Heliosphere Workshop, Irvine, CA, May 6–7, 2003.

7.2 “Particle acceleration at a dynamic termination shock”, Symposium in Honor of Edward Stone on the Occasion of his 70th Birthday, Pasadena, CA, February 10–11, 2006.

7.3 “Particle acceleration at the termination shock: anisotropies and dynamic phenomena”, 2006 Heliospheric Workshop, Oxnard, CA, November 5–10, 2006.

7.4 “Pickup ion acceleration and evolution at the termination shock and in the heliosheath”, International Space Science Institute Workshop “From the Outer Heliosphere to the Local Bubble”, Bern, Switzerland, October 15–19, 2007.

7.5 “Galactic cosmic rays in the outer heliosphere”, International Space Science Institute Workshop “Cosmic Rays in the Heliosphere II”, Bern, Switzerland, April 12–16, 2010.

7.6 “Plasma instabilities with applications to pickup ion rings in the outer heliosheath and LISM”, IBEX Science Working Team Meeting, Boulder, CO, September 14–16.

7.7 “The global heliosphere during the recent solar minimum: implications for cosmic rays”, 1st Causes and Consequences of Minimum of Solar Cycle 23 Meeting, Boulder, CO, May 17–19, 2011. 2010.

7.8 “Cosmic ray transport near the heliopause”, International Space Science Institute Workshop “Physics of the Heliopause”, Bern, Switzerland, April 17–20, 2012.

7.9 “Cosmic ray transport in the heliosphere: a global perspective”, Centenary Symposium on Cosmic Rays, Denver, CO, June 26–28, 2012.

7.10 “Cosmic ray transport in the inner and outer heliosheaths”, International Space Science Institute Workshop “Physics of the Heliopause”, Bern, Switzerland, November 6–9, 2012.

7.11 “Entering the magnetic highway: consequences for energetic particles”, International Space Science Institute Workshop “Physics of the Heliopause”, Bern, Switzerland, May 21-24, 2013.

7.12 “Pickup ions, cosmic rays, and turbulence in the interstellar medium: V1”, Voyager Science Steering Group meeting, Laurel, MD, September 25-26, 2014.

7.13 “Energetic particle anisotropies at the heliospheric boundary”, International Workshop “Cosmic Ray Anisotropies”, Bad Honnef, January 26-30, 2015.

7.14 "Theory of the heliospheric interface (and related topics)", Voyager Science Steering Group meeting, Pasadena, CA, August 20-21, 2015.

7.15 "Ring instability revisited – where is the turbulence?", International Space Science Institute Workshop "Facing the Most Pressing Challenges to Our Understanding of the Heliosheath and its Outer BoundariesPhysics of the Heliopause", Bern, Switzerland, October 5–9, 2015.

7.16 "Magnetic fluctuations in interstellar space and cosmic ray anisotropies", Voyager Science Steering Group meeting, San Francisco, CA, December 11, 2016.

7.17 "Magnetic turbulence in the outer heliosheath: observations, local sources, and effects on cosmic rays", ISSI Team Very Local Interstellar Medium, Bern, Switzerland May 8-11, 2017.

7.18 "Magnetic fluctuations and cosmic rays in the Very Local Interstellar Medium", 4th Cosmic Ray Anisotropy Workshop, Guadalajara, Mexico, October 10-13, 2017

7.19 "Magnetic fields and energetic particles beyond the boundary of the solar system", Colloquium presentation at Auburn University, Auburn, AL., November 17, 2017.

7.20 "On galactic and anomalous cosmic ray effects in the inner and outer heliosheaths", ISSI Team Very Local Interstellar Medium, Bern, Switzerland September 17-20, 2018.

7.21 "Magnetic fields and energetic particles near the boundary of the solar system", Colloquium presentation at the National Space Science Center, Beijing, China, October 23, 2018.

7.22 "Exploring the Boundary of the Solar System", Colloquium presentation at the Southern University of Science and Technology, Shenzhen, China, November 1, 2018.

7.23 "Magnetic trapping of galactic cosmic rays in the outer heliosheath", ISSI-BJ Forum on "Exploration of Outer Heliosphere and Nearby Interstellar Medium", Beijing, China, November 7-8, 2019.

8. Research Grants and Contracts Received: (include agency or foundation, title, dollar amount, time period) – as PI only

8.1 "CDS&E: AST: Collaborative Research: Computational Science in Support of Space Missions: Plasma Turbulence Modeling on Geodesic Meshes", Sponsored by NSF, Federal, 235,084 (09/01/2020 – 08/31/2023).

8.2 "The Heliopause: the Magnetic Boundary of the Solar System", Sponsored by NASA, Federal, $442,091 (2020-09-01 – 2023-08-31).

8.3 "Interpreting magnetic field and cosmic ray observations in the outer heliosheath", Sponsored by NASA, Federal, $450,000 (2018-04-01 – 2021-03-31).

8.4 “Galactic cosmic ray variations in corotating interaction regions”, Sponsored by NASA, Federal, $314,000 (2017-01-01 – 2019-12-31).

8.5 “The CSPAR Supercomputer Redux”, Sponsored by UAH, Institutional, $75,664 (2017-02-01 – 2017-08-01).

8.6 “Towards a Common Computer Modeling Framework in Space and Geosciences”, Sponsored by UAH, Institutional, $46,234 (2016-04-01 – 2017-03-31).

8.7 “Collaborative Research: Developing Mathematical Algorithms for Adaptive, Geodesic Mesh MHD”, Sponsored by NSF, Federal, $125,102 (2014-07-01 – 2017-06-30).

8.8 “The CSPAR Supercomputer Initiative”, Sponsored by UAH, Institutional, $52,168 (2013-05-01 – 2014-04-30).

8.9 “Investigating global energetic ion and neutral atom populations with IBEX and Voyager”, Sponsored by NASA, Federal, $316,195 (2012-05-01 – 2015-04-30).

8.10 “Effects of Solar Cycle 24 on the spatial and temporal structure of the heliosheath and its impact on the modulation of galactic cosmic rays in the heliosphere”, Sponsored by NASA, Federal, $269,000 (2010-03-01 – 2013-02-28).

8.11 “Structure and Physics of the Global Heliosphere During the Minimum of Solar Cycle 23”, Sponsored by NASA, Federal, $298,000 (2010-03-01 – 2013-02-28).

8.12 “CAREER: Computational Physics for Research and Industry”, Sponsored by NSF with UAH cost share, Federal, $652,122 (2010-01-01 – 2014-12-31).

8.13 “Cosmic Ray Modulation in the Global Heliosphere: A Self-Consistent 3-D Approach”, Sponsored by University of California, Riverside, Federal, $59,109 (2008-07-01 – 2009-07-01).

IV. Service Activities (include service to institution, profession, discipline, other):

Committee Member, College of Science PTAC (Spring 2021 – present)

Committee Member, Space Science Reappointment Committee (Fall 2019 – Spring 2020)

Committee Member, Atmospheric Science Reappointment Committee (Fall 2019 – Spring 2020)

Preliminary Action Officer, Faculty grievance proceedings (Fall 2018 – Spring 2019)

Committee Chair, SPA Graduate Program Committee. (September 1, 2013 - Present).

Committee Member, SPA Website (Space Science). (2013 - Present).

Committee Member, SPA/CSPAR Computer Committee. (August 2008 - Present).

Writer/Grader, Space Science Comprehensive Exam. (2016, 2017, 2018, 2019).

Committee Member, CoS Curriculum Committee. (January 1, 2015 - Present).

Committee Member, Faculty Senate. (August 2015 - August 2019).

Committee Member, Senate Personnel Committee. (August 2015 – August 2019).

Member, NASA senior review panel, Washington, DC. (Fall 2017).

Chair, NASA Heliophysics Guest Investigator panel, Leesburg, VA. (Summer 2018).

Member, NSF Solar terrestrial panel (Spring 2019).

Member, NSF Graduate Research Fellowship panel (Spring 2020).

Reviewer, Advances in Space Research (7)

Reviewer, AIP Proceedings (15)

Reviewer, Astronomy and Astrophysics (2)

Reviewer, Astrophysical Journal (22)

Reviewer, Journal of Computational Physics (5)

Reviewer, Frontiers in Science (1)

Reviewer, Geophysical Research Letters (3)

Reviewer, Journal of Geophysical Research (22)

Reviewer, Physica (1)

Reviewer, Science (3)

Reviewer, Space Science Reviews (2)

Reviewer, Grant Proposal, NASA

Reviewer, Grant Proposal, NSF

Reviewer, National Research Foundation of South Africa.

MSO (Main Scientific Organizer), COSPAR scientific assemblies (Moscow 2014, Istanbul 2016)

V. Honors, Awards, and Special Recognitions:

S. T. Wu CSPAR Award, 2010

Silver Achievement Medal, NASA (Parker Solar Probe team), 2019