Brian T. Kress, Senior Research Scientist

Cooperative Institute for Research in the Environmental Sciences (CIRES) at CU-Boulder and
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Education

Ph.D., Physics	Dartmouth College, Hanover, NH	2002
Ph.D. Thesis: *Spectral computations of wall-bounded two-dimensional turbulence*		
Advisor: Dr. David C. Montgomery		
M.S., Physics	Binghamton University, Binghamton, NY	1997
MS Thesis: *Tests for CP violation and non V-A couplings in top quark decay*		
Advisor: Dr. Charles A. Nelson		
B.S., Physics	State University of NY at Fredonia, Fredonia, NY	1992

Professional Appointments

Sr. Research Scientist	CIRES at CU Boulder, Boulder, CO	May 2022 -present
Research Scientist III	CIRES at CU Boulder, Boulder, CO	2014-2022
Research Faculty	Dartmouth College, Physics Department, Hanover, NH	
Adjunct Faculty		2014-2018
Research Associate Professor		2011-2014
Research Assistant Professor		2005-2011
Research Associate		2002-2005

Professional and Research Summary

- Space Particle Instruments Science Team Lead within NOAA's National Centers for Environmental Information (NCEI) Solar and Terrestrial Physics (STP) group. The NCEI STP group supports design, assembly and calibration of space weather instruments flown on NOAA's satellites. The STP group also works on scientific algorithm development and operational research for the NOAA National Weather Service (NWS) Space Weather Prediction Center (SWPC).
- Serve as subject matter expert and primary point-of-contact for space particle sensor data at NCEI.
- Active in the space sciences research community – current research is primarily focused on transport of energetic particle populations in the near-Earth space environment.

Management Responsibilities

- Hiring and management of Space Particle Instrument Science Team in CIRES/NCEI STP group
- Providing scientific and technical supervision of CIRES/NCEI STP group developers working on scientific algorithms for data from NOAA's space weather particle instruments
- Management of grant funded research in the space sciences since 2007

Grants and Contracts

CIRES/NCEI work on NOAA's satellite programs is currently supported by the GOES-R program through NOAA Cooperative Agreements NA15OAR4320137 and NA17OAR4320101. Support is also provided by the Space Weather Follow-on Lagrange-1 (SWFO L1) Program.

Air Force Office of Sponsored Research (AFOSR), Award FA9550-20-1-0339, Solar Energetic Proton Access and Trapping in the Inner Magnetosphere, PI: Mary Hudson (Dartmouth College), Co-I / CU PI: Brian T. Kress, $48,697 (CU Boulder funds), 09/15/20 - 09/14/23.

NASA LWS TR&T, Award NNH17ZDA001N, Quantifying solar wind-magnetosphere-ionosphere response to extreme driving conditions, PI: Natalia Buzulukova (GSFC), Co-I: Robert Redmon (NOAA-NCEI); Science contributor and recipient of CIRES/CU Boulder funds: Brian Kress, $175,910 (NCEI/CIRES), 08/06/18-08/05/22.

NSF (Magnetosphere Base Program), Award ATM-1023332, Dynamics of the Inner Radiation Belt Near the Trapping Limit, PI: Mary K. Hudson, Co-PI: Brian T. Kress, Co-PI: Richard Selesnick, $365,001.00, 8/1/10-7/31/13.

NSF NSWP, Award AGS-1023339, Collaborative Research: Modeling and Observations of the East-West Effect in Solar Energetic Particle Flux at Geosynchronous, PI: Brian T. Kress (Dartmouth College, in collaboration with Juan V. Rodriguez at NOAA-NCEI, Boulder, CO), $84,061.00 (Dartmouth College), 08/01/10-07/31/13.

NASA ROSES SR&T, Award NNX10AL87G, Nonlinear Transport in the Earth's Radiation Belts, PI: Brian T. Kress, Co-I: Mary K. Hudson, Co-I: Hans-Reinhard Mueller, $274,468.00, 5/25/10-5/24/13.

NSF NSWP, Award ATM-0921979, Solar Energetic Particles in Geospace: Numerical Model Development and Validation, PI: Brian T. Kress, $127,432.00, 9/15/09-9/14/12.

NASA LWS TR&T, Award NNX08AM34G, Radiation Belt Electron Transport at Ultra-Relativistic Energies, PI: Mary K. Hudson, Co-I: Brian T. Kress, $320,125.00, 4/15/08-4/14/11.

NSF STC: Center for Integrated Space Weather Modeling, ATM- 0120950, PI: Jeff Hughes (Boston University), Senior Personnel: Brian T. Kress (Dartmouth College), $2,550,000.00, 8/01/07-7/31/12.

NASA Applied Sciences Program, Space Weather Nowcasting of Atmospheric Ionizing Radiation for Aviation Safety, PI: Christopher J. Mertens (NASA/Langley Research Center), Co-I / Dartmouth College PI: Brian T. Kress, $146,963.00 (Dartmouth funds), 5/1/08-4/30/11.

NASA LWS TR&T, Grant NNX07AO77G, Modeling variations in solar energetic particle access to the inner magnetosphere and Earth during geomagnetic storms, PI: Brian T. Kress, Co-I: M. K. Hudson, $282,818.00, 7/6/07-7/5/10.

Professional Activities

- Serve on COSPAR's International Space Weather Action Team (ISWAT), G3-05, Solar Energetic Particle Population in Geospace: https://www.iswat-cospar.org/G3-05
- Currently serve as Space Environment Subject Matter Expert on NASA Review Board for SWFO-L1 Supra Thermal Ion Sensor
- Co-Mentor (w/ Dr. Allison Janes at Univ. of Iowa) NSF Post-Doctoral Fellow Rachael Filwett, 2020-2022
- NSF GEM ULF Wave Focus Group Co-chair, 2015-2021 (with M. Hartinger and K. Takahashi)
- Co-chaired AGU 2011 Fall Meeting session “General Magnetospheric Contributions”
- Proposed and convened AGU 2007 Fall Meeting session “Energetic Ions in Geospace”
- Regularly review manuscripts submitted for publication in peer-reviewed journals
- Serve as external research advisor for undergraduate and graduate students at Dartmouth College
- Service on NSF and NASA grant proposal review panels
- American Geophysical Union member since 2002

Courses Taught (Dartmouth College)

Undergraduate Electrodynamics; Spring terms 2008, 2010, 2014

Numerical and Computational Tools for Applied Science; Spring 2014 (Computer Sci. Dept.)

Graduate Fluid Dynamics; Spring 2013

Graduate Classical Mechanics; Fall terms 2010-2012

Computational Skills

- Development of scientific algorithms for real-time operational use by the National Weather Service.
- Expertise in numerical analysis with emphasis on computational fluid dynamics; Experience solving PDEs using finite element, boundary element, finite difference and spectral methods.
- Proficient C and Fortran programmer; Skilled with MPI, Mathematica, MATLAB, Python, PERL, HTML, and UNIX/Linux Shell scripting.

Honors and Awards

Space Weather paper Kress et al. [2021] highlighted by editor in Eos.org: https://eos.org/editor-highlights/next-generation-solar-proton-monitors-for-space-weather (Fewer than 2 per cent of AGU journal papers are selected to be highlighted in Eos.org.)

CIRES Administrator Team Award, for achieving a fully operational GOES-R constellation culminating a decades-long effort, CIRES at CU Boulder, 2020.

CIRES Gold Medal: "These researchers were part of a NOAA team that won a Department of Commerce Gold Medal for a successful GOES-R satellite launch, proving the nation's foundation for the world's highest quality weather monitoring and forecasting", CIRES at CU Boulder, 5/18/2018

2016 CCOG Team Member of the Year Award (team award), For Delivering Mission Critical Capabilities, NOAA National Center for Environmental Information, 02/22/2017.

NASA Group Achievement Award to the Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) team for outstanding achievement in developing the first real-time global model for predicting biologically harmful radiation exposure to commercial aircrew and passengers, 8/2/2012.

Selamawit Tsehaye Teaching Award, given annually to a graduating Ph.D. for his/her dedication to teaching physics, Department of Physics and Astronomy at Dartmouth College, 2002.

John J. Connelly Peer Recognition Award, Chosen by ballot of students in the Department of Physics, SUNY College at Fredonia, for scholarship, role model, and teaching, 1992.

Publications

Kress, B. T., J. V. Rodriguez, A. Boudouridis, T. G. Onsager, B. K. Dichter, G. E. Galica, and S. Tsui (2021), Observations from NOAA's Newest Solar Proton Sensor. *Space Weather, 19* , e2021SW002750. https://doi.org/10.1029/2021SW002750

Li, Z., M. Engel, M. K. Hudson, **B. T. Kress**, M. Patel, M. Qin, and R. S. Selesnick (2021), Solar energetic proton access to the inner magnetosphere during the September 7–8, 2017 event. *Journal of Geophysical Research: Space Physics, 126*, e2021JA029107. https://doi.org/10.1029/2021JA029107

Park, J., K. Min, H. Seo, E. Kim, K. Ryu, J. Sohn, J. Seon, J. Yoo, S. Lee, **B. T. Kress**, J. Lee, C. Woo and D- Y. Lee (2021), Multi-year statistics of LEO energetic electrons as observed by the Korean NextSat-1. *Space Weather, 19*, e2021SW002787. https://doi.org/10.1029/2021SW002787

Kress, B. T., J. V. Rodriguez, and T. G. Onsager (2020), The GOES-R space environment in situ suite (SEISS): Measurement of energetic particles in geospace. In J. G. Steven, T. J. Schmit, J. Daniels, and R. J. Redmon (Eds.), The GOES-R Series (pp. 243–250), Elsevier. https://doi.org/10.1016/B978-0-12-814327-8.00020-2

Boudouridis, A., J. V. Rodriguez, **B. T. Kress**, B. K. Dichter, and T. G. Onsager (2020), Development of a bowtie inversion technique for real-time processing of the GOES-16/-17 SEISS MPS-HI electron channels. *Space Weather, 18*, e2019SW002403. https://doi.org/10.1029/2019SW002403

Filwett, R. J., A. N. Jaynes, D. N. Baker, S. G. Kanekal, **B. T. Kress**, and J. B. Blake (2020), Solar energetic proton access to the near-equatorial inner magnetosphere. *Journal of Geophysical Research: Space Physics, 125*, e2019JA027584. https://doi.org/10.1029/2019JA027584

Baker, D. N., H. Zhao, X. Li, S. G. Kanekal, A. N. Jaynes, **B. T. Kress**, et al. (2019), Comparison of Van Allen Probes Energetic Electron Data with corresponding GOES-15 Measurements: 2012–2018, *Journal of Geophysical Research: Space Physics, 124*, 9924– 9942. https://doi.org/10.1029/2019JA027331

Qin, M., M. K. Hudson, **B. T., Kress**, R. S. Selesnick, M. Engel, Z. Li, and X. Shen (2019), Investigation of solar proton access into the inner magnetosphere on 11 September 2017, *Journal of Geophysical Research: Space Physics, 124*, 3402– 3409. https://doi.org/10.1029/2018JA026380

Hudson, M. K., A. N. Jaynes, **B. T. Kress**, Z. Li, M. Patel, X.-C. Shen, S. Thaller, M. Wiltberger, and J. Wygant (2017), Simulated prompt acceleration of multi-MeV electrons by the 17 March 2015 interplanetary shock. *Journal of Geophysical Research: Space Physics, 122*, 10,036– 10,046. https://doi.org/10.1002/2017JA024445

Engel, M. A., **B. T. Kress**, M. K . Hudson, and R. S. Selesnick (2016), Comparison of Van Allen Probes radiation belt proton data with test particle simulation for the 17 March 2015 storm, *J. Geophys. Res. Space Physics, 121*, 11,035–11,041. https://doi.org/10.1002/2016JA023333

Selesnick, R. S., D. N. Baker, A. N. Jaynes, X. Li, S. G. Kanekal, M. K. Hudson, and **B. T. Kress** (2016), Inward diffusion and loss of radiation belt protons, *J. Geophys. Res. Space Physics, 121*, 1969–1978. https://doi.org/10.1002/2015JA022154

Halford, A. J., S. L. McGregor, M. K. Hudson, R. M. Millan, and **B. T. Kress** (2016), BARREL observations of a solar energetic electron and solar energetic proton event, *J. Geophys. Res. Space Physics, 121*, 4205–4216. https://doi.org/10.1002/2016JA022462

Kress, B. T., M. K. Hudson, R. S. Selesnick, C. J. Mertens, and M. Engel (2015), Modeling geomagnetic cutoffs for space weather applications, *J. Geophys. Res. Space Physics, 120,* 5694– 5702. https://doi.org/10.1002/2014JA020899

Ukhorskiy, A. Y., M. I. Sitnov, R. M. Millan, **B. T. Kress**, J. F. Fennell, S. G. Claudepierre, and R. J. Barnes (2015), Global storm time depletion of the outer electron belt. *J. Geophys. Res. Space Physics, 120*, 2543–2556, doi: 10.1002/2014JA020645.

Engel, M. A., **B. T. Kress**, M. K. Hudson, and R. S. Selesnick (2015), Simulations of inner radiation belt proton loss during geomagnetic storms, *J. Geophys. Res. Space Physics, 120*, 9323–9333, (Dartmouth Ph. D. student advisee paper). https://doi.org/10.1002/2015JA021568

Li, Z., M. K. Hudson, **B. T. Kress**, and J. Paral (2015), Three-dimensional test particle simulation of the 17–18 March 2013 CME shock-driven storm, *Geophys. Res. Lett., 42*, 5679–5685. https://doi.org/10.1002/2015GL064627

Brito, T., M. K. Hudson, **B. T. Kress**, J. Paral, A. Halford, R. Millan, and M. Usanova (2015), Simulation of ULF wave-modulated radiation belt electron precipitation during the 17 March 2013 storm. *J. Geophys. Res. Space Physics, 120*, 3444–3461. https://doi.org/10.1002/2014JA020838

Paral, J., M. K. Hudson, **B. T. Kress**, Wiltberger, M. J., Wygant, J. R., and Singer, H. J. (2015), Magnetohydrodynamic modeling of three Van Allen Probes storms in 2012 and 2013, *Ann. Geophys., 33*, 1037-1050. https://doi.org/10.5194/angeo-33-1037-2015

Hudson, M. K., J. Paral, **B. T. Kress**, M. Wiltberger, D. N. Baker, J. C. Foster, D. L. Turner, and J. R. Wygant (2015), Modeling CME-shock-driven storms in 2012–2013: MHD test particle simulations, *J. Geophys. Res. Space Physics, 120,* 1168– 1181. https://doi.org/10.1002/2014JA020833

Selesnick, R. S., D. N. Baker, A. N. Jaynes, X. Li, S. G. Kanekal, M. K. Hudson, and **B. T. Kress** (2014), Observations of the inner radiation belt: CRAND and trapped solar protons, *J. Geophys. Res. Space Physics, 119*, 6541–6552. https://doi.org/10.1002/2014JA020188

Kress, B. T., M. K. Hudson, and J. Paral (2014), Rebuilding of the Earth's outer electron belt during 8-10 October 2012, *Geophys. Res. Lett., 41*, 749–754. https://doi.org/10.1002/2013GL058588

Hudson, M. K., D. N. Baker, J. Goldstein, **B. T. Kress**, J. Paral , F. R. Toffoletto, and M. Wiltberger (2014), Simulated magnetopause losses and Van Allen Probe flux dropouts, *Geophys. Res. Lett., 41*, 1113–1118, doi:10.1002/2014GL059222.

Ukhorskiy, A. Y., M. I. Sitnov, R. M. Millan, **B. T. Kress**, and D. C. Smith (2014), Enhanced radial transport and energization of radiation belt electrons due to drift orbit bifurcations, *J. Geophys. Res. Space Physics, 119*, 163–170. https://doi.org/10.1002/2014JA020645

Kress, B. T., J. V. Rodriguez, J. E. Mazur, and M. Engel (2013), Modeling solar proton access to geostationary spacecraft with geomagnetic cutoffs. *J. Adv. Space Res., 52*, 1939–1948. http://dx.doi.org/10.1016/j.asr.2013.08.019

Kress, B. T., M. K. Hudson, A. Y. Ukhorskiy, and H.-R. Mueller (2012), Nonlinear radial transport in the Earth's radiation belts, in *Dynamics of the Earth's Radiation Belts and Inner Magnetosphere*, Geophys. Monogr. Ser., 199, Editors: D. Summers, I. R. Mann, D. N. Baker, and M. Schulz, pp. 151-160.

Hudson, M. K., T. Brito, S. Elkington, **B. T. Kress**, Z. Li, M. Wiltberger (2012), Radiation belt 2D and 3D simulations for CIR-driven storms during Carrington Rotation 2068, *J. of Atmos. and Solar-Terr. Phys.*, *83*, 51-62.

Ukhorskiy, A. Y., M. Sitnov, R. Millan and **B. T. Kress** (2011), The Role of Drift Orbit Bifurcations in Energization and Loss of Electrons in the Outer Radiation Belt, *J. of Geophys. Res., 116*, A09208.

Kress, B. T., C. J. Mertens, and M. Wiltberger (2010), Solar energetic particle cutoff variations during the 29-31 October 2003 geomagnetic storm, *Space Weather Journal, 8*, S05001. https://doi.org/10.1029/2009SW000488

Mertens, C. J., **B. T. Kress**, M. Wiltberger, S. R. Blattnig, T. S. Slaba, and S. C. Solomon (2010), Geomagnetic influence on aircraft radiation exposure during a solar energetic particle event in October 2003, *Space Weather Journal, 8*, S03006. https://doi.org/10.1029/2009SW000487

Selesnick, R. S., M. K. Hudson, and **B. T. Kress** (2010), Injection and loss of inner radiation belt protons during solar proton events and magnetic storms, *J. of Geophys. Res., 115*(A8), A08211, doi: 10.1029/2010JA015247

Huang, C., H. E. Spence, and **B. T. Kress** (2009), Assessing access of galactic cosmic rays at Moon's orbit, *Geophys. Res. Lett., 36*(9), L09109. https://doi.org/10.1029/2009GL037916

Mertens, C. J., W. K. Tobiska, D. Bouwer, **B. T. Kress**, M. Wiltberger, S. C. Solomon, and J. J. Murray (2009), Development of the Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) model, *AIAA*, 2009-3633-978.

Kress, B. T., M. K. Hudson, M. D. Looper, J. G. Lyon, and C. C. Goodrich (2008), Global MHD test particle simulations of solar energetic electron trapping in the Earth's radiation belts, *J. of Atmos. and Solar-Terr. Phys. 70*(14), 1727-1737.

Hudson, M. K., **B. T. Kress**, H. Mueller, J. A. Zastrow, and J. B. Blake (2008), Relationship of the Van Allen Radiation Belts to Solar Wind Drivers, *J. of Atmos. & Solar-Terr. Phys., 70*(5), 708-729.

Kress, B. T., M. K. Hudson, M. D. Looper, J Albert, J. G. Lyon, and C. C. Goodrich (2007), Global MHD test particle simulations of >10 MeV radiation belt electrons during storm sudden commencement, J. of Geophys. Res., 112, A09215, doi:10.1029/2006JA012218.

Shepherd, S. G. and **B. T. Kress** (2007), Störmer theory applied to magnetic spacecraft shielding, *Space Weather, 5*(4), S04001, doi:10.1029/2006SW000273.

Shepherd, S. G. and **B. T. Kress** (2007), Comment on "Applications for deployed high temperature superconducting coils in spacecraft engineering: a review and analysis" by J. C. Cocks et al., *Journal of the British Interplanetary Society, 60*(4).

Roth I., M. K. Hudson, **B. T. Kress**, and K. L. Perry (2006), Energetic particles in the magnetosphere and their relationship to solar wind drivers, *Solar Eruptions and Energetic Particles*, American Geophysical Union Monograph Series, AGU, 165.

Kress, B. T., M. K. Hudson, and P. L. Slocum (2005), Solar energetic ion trapping in the magnetosphere during geomagnetic storms, *Geophys. Res. Lett., 32*, L06108.

Hudson, M. K., **B. T. Kress**, J. E. Mazur, K. L. Perry, and P. L. Slocum (2004), 3D modeling of shock-induced trapping of solar energetic particles in the Earth's magnetosphere, *J. of Atmos. & Solar Terr. Phys., 66*, 15-16, 1389-1397.

Kress, B. T., M. K. Hudson, K. L. Perry, and P. L. Slocum (2004), Dynamic modeling of geomagnetic cutoff for the 23-24 November 2001 solar energetic particle event, *Geophys. Res. Lett., 31*(4), L04808.

Kress, B. T. (2002), *Spectral Computations of wall-bounded two-dimensional turbulence*, Ph.D. Thesis, Dartmouth College.

Kress B. T. and D. C. Montgomery (2001), Pressure determinations for incompressible fluids and magnetofluids, *J. Plasma Phys. 64*, 371-377.

Kress, B. T. and D.C. Montgomery, Incompressible pressure determinations (2000), *Proc. 27th EPS Conference on Contr. Fusion and Plasma Phys.,* Budapest, Ed. by K. Szego, T.N. Todd, S. Zoletnik, Vol. 24B, 109.

Nelson, C. A., **B. T. Kress**, M. Lopes, and T. P. McCauley (1998), Importance of tests for the complete Lorentz structure of the t -> W+b vertex at hadron colliders, *Phys. Rev. D, 57*, 5923-5926.

Kress, B. T. (1997), *Tests for CP violation and non V-A couplings in top quark decay*, M.S. Thesis, State University of NY at Binghamton.

Nelson, C. A., **B. T. Kress**, M. Lopes, and T. P. McCauley (1997), General tests for t -> W+b couplings at hadron colliders, *Phys. Rev. D, 56*, 5928-5944.

Invited Talks (First-author and Presenter)

Kress, B. T., A. Boudouridis, J. J. Connell, W. F. Denig, B. Dichter, D. Flanagan, G. Galica, M. Golightly, C. Lopate, J. McGarity, P. A. Puhl-Quinn, M. Renfroe, F. J. Rich, J. V. Rodriguez, W. Rowland, C. Tanner, and S. Tsui (2017), New Energetic Particle Observations at Geosynchronous by the GOES-R Series Space Environment In Situ Suite (SEISS), 2017 American Meteorological Society Annual Meeting, Seattle, WA, USA, 22-26 Jan.

Kress, B. T. (Invited Seminar), J. V. Rodriguez, and A. Boudouridis (2017), New Data From the GOES-16 Space Environment In Situ Suite (SEISS). Air Force Research Lab (AFRL), Albuquerque, NM, USA, 14 June.

Kress, B. T. (Invited Seminar), J. V. Rodriguez, and W. F. Denig (2016), Energetic Particle Observations at Geosynchronous -- Past, Present, and Future, Space Plasma Seminar in the Dept. of Physics and Astronomy at Dartmouth College, Hanover, NH, USA, 5 May.

Kress, B. T. (Invited Seminar), M. K. Hudson, A. Y. Ukhorskiy, J. G. Lyon, M. D. Looper, R. S. Selesnick, A. N. Jaynes, S. G. Claudepierre, and J. Paral (2016, May 10), Radial Transport in the Earth's Outer Electron Belts, Laboratory for Atmospheric Sciences Seminar (LASP) FOM Seminar, Boulder, CO, USA, 10 May.

Kress, B. T., M. K. Hudson, J. Paral, R. S. Selesnick, and S. G. Claudepierre (2015), Modeling rebuilding of the Earth's ~1MeV outer radiation belts using test-particle trajectories computed in MHD magnetospheric model fields and comparison with RBSP and geosynchronous observations, Inner Magnetosphere Storms Coupling III Meeting, UCLA, Los Angeles, CA, 23-27 March.

Kress, B. T., A. Y. Ukhorskiy, and M. K. Hudson (2011), Radial transport and energization in the Earth's radiation belts driven by solar wind dynamic pressure fluctuations, AGU Chapman meeting on Dynamics of the Earth's Radiation Belts and Inner Magnetosphere, St. John's Newfoundland, 16-22 July.

Kress, B. T., A. Y. Ukhorskiy and M. K. Hudson (2010), Radial transport in the Earth's radiation belts, Abstract SM23C-02 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Kress, B. T., C. J. Mertens, and M. Wiltberger (2010), Modeling Geomagnetic Cutoffs for Space Weather Applications, Seventh European Space Weather Week, Brugge, Belgium, 15-19 Nov.

Kress, B. T., M. K. Hudson, M. D. Looper, J. M. Albert, J. G. Lyon, C. C. Goodrich (2008), MHD Test Particle Simulations of >10 MeV Radiation Belt Formation During Storm Sudden Commencement, URSI National Radio Science Meeting, Univ. of Colorado, Boulder, CO, Jan. 3-6.

Kress, B. T., M. K. Hudson, M. D. Looper, J. M. Albert, J. G. Lyon and C. C. Goodrich (2008), Radiation belt energy and pitch angle distributions resulting from shock-drift injections, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract SM41C-05.

Conference Presentations

Filwett, R., D. N. Baker, S. Kanekal, B. Mauk, B. Blake, I. Cohen, A. Jaynes, D. Turner, and **B. T. Kress** (2021), Dynamic Access of Solar Energetic Protons into Earth's Inner Magnetosphere, Abstract D2.4-0019-21 (oral presentation), 43rd COSPAR Scientific Assembly, id.1007, 28 Jan.

Li, Z., M. Engel, M. K. Hudson, **B. T. Kress**, M. Patel, M. Qin, and R. S. Selesnick (2020), Solar Energetic Proton Access to the Inner Magnetosphere during the 7-8 September 2017 event, Abstract #SM030-07 (oral presentation), American Geophysical Union, Fall Meeting 2020, 11 Dec.

Hudson, M. K., M. Patel, S. Elkington, Z. Li, and **B. T. Kress** (2020), MHD-test particles simulations of moderate CME and CIR-driven geomagnetic storms at solar minimum and comparison with Van Allen Probes radiation belt electron measurements, Abstract #SH021-05 (oral presentation), American Geophysical Union, Fall Meeting 2020, 9 Dec.

Maruyama, N., T. Hori, A. Kumamoto, Y. Kasahara, N. Nishitani, A. Shinbori, M. Henderson, A. Yoshikawa, A. Matsuoka, I. Shinohara, Y. Miyoshi, Y. Otsuka, A. Menz, M-C Fok, S. Matsuda, M. Nose, **B. T. Kress**, S. Califf, Y. Obana, F. Tsuchiya, S. Thaller, and C. Fer (2021), Identifying the Physical Mechanisms to Explain the Extreme Plasmaspheric Erosion for the September 2017 Storm, Abstract C1.2- 0044-21 (poster), 43rd COSPAR Scientific Assembly, id.652, 28 Jan.

Ferradas, C., M-C. Fok, N. Maruyama, A. Menz, M. Henderson, **B. T. Kress**, S. Califf, and S. Thaller (2020), The Role of Substorm Injections on the Extreme Geo-Effectiveness Observed in the Inner Magnetosphere on the 8 September 2017 Geomagnetic Storm, Abstract #SM042-0006 (poster), American Geophysical Union, Fall Meeting 2020, 1 Dec.

McPherron, R., M. Kivelson, H. J. Singer, P. T. M. Loto'aniu, and **B. T. Kress** (2020), Storm Associated Pc4 Waves at Synchronous Orbit in May 2017, Abstract #SM006- 0020 (poster), American Geophysical Union, Fall Meeting 2020, 7 Dec.

Filwett, R. J., A. N. Jaynes, D. N. Baker, S. G. Kanekal, B. Blake, and **B. T. Kress** (2020), Energetic Solar Particle Access to the Near-Equatorial Inner Magnetosphere, 22nd EGU General Assembly, 4-8 May, id.1642.

Baker, D. N., H. Zhao, X. Li, S. G. Kanekal, A. N. Jaynes, **B. T. Kress**, J. V. Rodriguez, H. J. Singer, S. G. Claudepierre, J. F. Fennell (2019), Comparison of Van Allen Probes Energetic Electron Data with Corresponding GOES-15 Measurements: 2012 – 2018, Abstract #SM22B-05 (invited oral), American Geophysical Union, Fall Meeting 2019, San Francisco, CA, USA, 9 Dec.

Kress, B. T., A. Boudouridis, and J. V. Rodriguez (2019), New Data from NOAA's First Plasma Instrument at Geosynchronous (poster). NSF GEM Summer Workshop, Santa Fe, NM, USA, 22 June.

Hudson, M. K., Z. Li, M. Qin, **B. T. Kress**, R. S. Selesnick, M. Engel (2019), Solar Energetic Proton Access and Trapping in the Inner Magnetosphere, Abstract #SM31E-3195 (poster), American Geophysical Union, Fall Meeting 2019, San Francisco, CA, USA, 9 Dec.

Lotoaniu, P. T. M., **B. T. Kress**, S. Califf, M. Usanova, R. J. Redmon, J. V. Rodriguez (2019), Simultaneous Observations of Pc1-2 Electromagnetic Ion Cyclotron and Pc4-5 Ultra Low Frequency Waves by the GOES-16 Spacecraft, Abstract #SM23F-3280 (poster), American Geophysical Union, Fall Meeting 2019, San Francisco, CA, USA, 9 Dec.

Onsager, T. G., H. M. Bain, R. Rutledge, J. V. Rodriguez, **B. T. Kress**, K. Copeland (2019), New Energetic Proton Measurements for Aviation-Radiation Services, Abstract NH41D-0940 (poster), American Geophysical Union, Fall Meeting 2019, San Francisco, CA, USA, 9 Dec.

Young, S. L., I. A. Grimm, **B. T. Kress**, and J. P. McCollough II (2019), The effect of magnetic field model optimization using satellite observations on energetic particle cutoffs, Abstract #SM31E-3202 (poster), American Geophysical Union, Fall Meeting 2019, San Francisco, CA, USA, 9 Dec.

Rodriguez, J. V., A. Boudouridis, **B. T. Kress** and T. Onsager (2018), GOES-R-series Radiation Belt Observations in Support of Internal Charging Alerts and Investigations (oral presentation), 15th Spacecraft Charging Technology Conference, Kobe, Japan, 25 June.

Kress, B. T., J. V. Rodriguez, and A. Boudouridis (2018), Selected Results From GOES-16 Solar and Galactic Cosmic Ray Sensor (SGPS) Calibration and Anomaly Resolution (virtual oral presentation), 15th European Space Weather Week 2018, Topical Discussion Meeting - Harmonization of SEP Data Calibrations (HSDC), Leuven, Belgium, 7 Nov.

Rodriguez, J. V., A. Boudouridis, **B. T. Kress**, J. J. Connell, C. Lopate, R. Mewaldt, R. Vainio, M. Paassilta, O. Raukunen, D. Heynderickx, I. Sandberg, and P. Jiggens (2018), GOES-16 Solar Energetic Heavy Ion Observations from the SEP Events of July and September 2017: Comparison with ACE, SOHO and GOES 13-15 (oral), 15th European Space Weather Week 2018, Leuven, Belgium, 7 Nov.

Redmon, R., J. V. Rodriguez, P. Loto'aniu, J. Machol, D. Seaton, S. Califf, **B. T. Kress**, J. Darnel, W. Rowland, M. Tilton, A. Boudouridis, S. Codrescu, V. Hsu, and H. Singer (2018), The Space Weather Alternative In-Situ Demonstrator (SWAID) Mission Concept: An alternative to the GOES spacecraft in-situ observations (oral), 15th European Space Weather Week 2018, Leuven, Belgium, 9 Nov.

Baker, D. N., H. Zhao, **B. T. Kress**, J. V. Rodriguez, S. G. Kanekal, X. Li, A. N. Jaynes, H. J. Singer, J. F. Fennell, and S. G. Claudepierre (2018), Comparison of Van Allen Probes and GOES Energetic Electron Data on Multi-Year Timescales, Abstract SM21A-0 (oral), 2018 Fall American Geophysical Union Meeting, Washington, D.C., USA, 11 Dec.

Califf, S., P. Loto'aniu, D. Early, J. V. Rodriguez, **B. T. Kress**, R. Redmon, and M. Grotenhuis (2019), Arcjet Thruster Influence on Local Magnetic Field Measurements from the GOES-16 Magnetometer (oral). Applied Space Environments Conference 2019, Los Angeles, CA, USA, 14 May.

Kress, B. T., A. Boudouridis, and J. V. Rodriguez (2019), Spacecraft Charging Levels from NOAA's First Plasma Instrument at Geosynchronous (oral presentation), Applied Space Environments Conference 2019, Los Angeles, CA, USA, 16 May.

Loto'aniu, P., R. Redmon, S. Califf , J. V. Rodriguez and **B. T. Kress** (2018), Initial GOES-16 Observations of Electromagnetic Ion Cyclotron Waves (poster), European Geosciences Union General Assembly 2018, Vienna, Austria, 9 April.

Kress, B. T., J. V. Rodriguez, and A. Boudouridis (2018), Observations of 2017 Solar Particle Events from Particle Detectors On-Board NOAA's Newest Space Weather Monitor (poster), 2018 GEM Workshop and GEM-CEDAR Joint Workshop, Santa Fe, NM, USA, 19 June.

Rodriguez, J. V., A. Boudouridis, **B. T. Kress** and T. Onsager (2018), Observations of Frame Charging by the MPS-LO Instrument on GOES-16 (poster), 15th Spacecraft Charging Technology Conference, Kobe, Japan, 25 June.

Qin, M., M. K. Hudson, **B. T. Kress**, R. S. Selesnick, M. Engel, and X. Shen (2018), Investigation of Solar Proton Access into the Inner Magnetosphere on 11 September 2017, Abstract SM43D-3615 (poster), 2018 Fall American Geophysical Union Meeting, Washington, D.C., USA, 13 Dec.

Califf, S., P. Loto'aniu, R. J. Redmon, J. V. Rodriguez, and **B. T. Kress** (2018), Estimating the Azimuthal Extent of Dipolarization Fronts at Geostationary Orbit Using Observations from Multiple GOES Spacecraft, Abstract SM51D-2768 (poster), 2018 Fall American Geophysical Union Meeting, Washington, D.C., USA, 14 Dec.

Young, S., J. Nazario, P. Olson, J. P. McCollough, and **B. T. Kress** (2019), Time-Dependent–3D Geomagnetic Cutoffs in an LFM Simulation with and without Electric Fields (poster), 99th American Meteorological Society Annual Meeting, Phoenix, AZ, USA, 7 Jan.

Boudouridis, A., **B. T. Kress**, and J. V. Rodriguez (2019), Calibration/Validation Efforts for Magnetospheric Plasma Sensor Low Energy, the New Plasma Instrument Onboard NOAA's GOES-16 and -17 Satellites (poster), 2019 Space Weather Workshop, Boulder, CO, USA, 4 April.

Califf, S., P. Loto'aniu, D. Early, R. Redmon, J. V. Rodriguez, **B. T. Kress**, and M. Grotenhuis (2019), Arcjet Thruster Influence on Local Magnetic Field Measurements from the GOES-16 Magnetometer (poster), 2019 Space Weather Workshop, Boulder, CO USA, 4 April.

Kress, B. T., A. Boudouridis, and J. V. Rodriguez (2019), New Data from NOAA's First Plasma Instrument at Geosynchronous (poster), 2019 Space Weather Workshop, Boulder, CO, USA, 4 April.

Boudouridis, A., J. V. Rodriguez, and **B. T. Kress** (2019-5-14), Development of a Bow-tie Inversion Technique for Real-time Processing of the GOES-16/-17 SEISS MPS-HI Electron Channels (poster), Applied Space Environments Conference 2019, Los Angeles, CA, USA, 14 April.

Kress, B. T., J. V. Rodriguez, and A. Boudouridis (2019), Observations of the September 2017 Solar Particle Events from NOAA's Newest Solar Proton Sensor (poster), Applied Space Environments Conference 2019, Los Angeles, CA, USA.

Kress, B. T. (2017), GOES-R Series SEISS SEP Cross Instrument Calibration (virtual oral presentation), Harmonization of SEP Data Calibrations (HSDC) Topical Discussion Meeting (Splinter meeting at the 2017 European Space Weather Week), Ostend, Belgium, 30 Nov.

Kress, B. T. (2017), Overviews of the Solar and Galactic Proton Sensor (SGPS) and Energetic Heavy Ion Sensor (EHIS) (oral presentation), Space Environment Engineering and Science Applications Workshop (SEESAW), Boulder, CO, USA, 6 Sept.

Kress, B. T., Rodriguez, J. V., and Onsager, T. G (2017), Data Products From Particle Detectors On-Board NOAAs Newest Space Weather Monitor, Abstract #SA21C-01 (oral), American Geophysical Union Fall Meeting 2017, New Orleans, LA, USA, 12 Dec.

Lotoaniu, P., J. V. Rodriguez, R. J. Redmon, J. Machol, **B. T. Kress**, D. Seaton, J. Darnel, W. Rowland, M. Tilton, W. Denig, A. Boudouridis, S. Codrescu, and A. Claycomb (2017), Space Weather Monitoring with GOES-16: Instruments and Data Products (oral), 19th EGU General Assembly, Vienna, Austria, 28 April.

Redmon, R. J., P. T. M. Lotoaniu, A. Boudouridis, P. J. Chi, H. Singer, **B. T. Kress**, J. V. Rodriguez, A. Abdelqader, and M. Tilton (2017), New GOES High-Resolution Magnetic Measurements and their Contribution to Understanding Magnetospheric Particle Dynamics, Abstract #SM41D-07 (oral), American Geophysical Union Fall Meeting 2017, New Orleans, LA, USA, 14 Dec.

Rodriguez, J. V., **B. T. Kress**, A. Boudouridis, T. G. Onsager (2017), Radiation Belt Indices from NOAAs Geostationary Weather Satellites (oral), 19th EGU General Assembly, Vienna, Austria, 24 April.

Kress, B. T., J. V. Rodriguez, A. Boudouridis, and B. Dichter (2017), Solar and Galactic Proton Sensor Status Report. NOAA-NWS-SWPC Space Weather Workshop (poster), Broomfield, CO, USA, 4 May.

Kress, B. T., J. V. Rodriguez, A. Boudouridis, and B. Dichter (2018), Observations of 2017 Solar Particle Events from Particle Detectors On-Board NOAA's Newest Space Weather Monitor (poster), GEM 2018 Summer Workshop, Santa Fe, NM, USA, 19 June.

Kress, B. T., J. V. Rodriguez, A. Boudouridis, and B. Dichter (2018), Observations of 2017 Solar Particle Events from Particle Detectors On-Board NOAA's Newest Space Weather Monitor (poster), NOAA-NWS-SWPC Space Weather Workshop, Westminster, CO, USA, 17 April.

Kress, B. T., J. V. Rodriguez, A. Boudouridis, and B. Dichter (2018), Observations of 2017 Solar Particle Events from Particle Detectors On-Board NOAA's Newest Space Weather Monitor (poster). 13th annual CIRES Rendezvous, Boulder, CO, USA, 18 May.

Kress, B. T., J. V. Rodriguez, and A. Boudouridis (2017), New Data From the GOES-16 Solar and Galactic Proton Sensor (SGPS) (poster), GEM 2017 Summer Workshop, Portsmouth, VA, 22 June.

Engel, M., M. K. Hudson, **B. T. Kress**, and R. Selesnick (2016), Comparison of Van Allen Probes Radiation Belt Proton Data with Test-Particle Simulation for the 17 March 2015 Storm, Abstract

SM41A-2418 (poster), American Geophysical Union 2016 Fall Meeting, San Francisco, CA, USA, 12 Dec.

McGregor, S. L., M. K. Hudson, **B. T. Kress**, and R. Selesnick (2016), Solar Energetic Particle Cutoff Energies for Small Geomagnetic Storms, Abstract SM13B-2202 (poster), American Geophysical Union 2016 Fall Meeting, San Francisco, CA, USA, 12 Dec.

Young, S. L. and **B. T. Kress** (2016), How Accurately Can We Map SEP Observations Using L*?, Abstract SM11C-2160 (poster), American Geophysical Union 2016 Fall Meeting, San Francisco, CA, USA, 12 Dec.

Kress, B. T., M. K. Hudson, J. Paral, R. S. Selesnick, and S. G. Claudepierre (2015), The Role of ULF Driven Radial Transport in Rebuilding the Earth's Outer Radiation Belts, Abstract SM21A-2464 (poster) presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Young, S., **B. T. Kress**, and R. S. Selesnick (2015), Comparison of Solar Energetic Particle Flux Mapping Models, Abstract SM41A-2464 (poster) presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Li, Z., M. Patel, and **B. T. Kress** (2015), 3D Test-particle Simulation and Global ULF Mode Structure Analysis of the 17 March, 2015 CME-shock Driven Storm, Abstract SM41E-2528 (poster) presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Hudson, M. K., **B. T. Kress**, Z. Li, M. Wiltberger, and J. Wygant (2015), Modeling the 17 March 2015 CME-shock driven storm using MHD-test particle simulations, Abstract SM11A-04 (invited oral) presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Selesnick, R. S., X. Li, D. Baker, A. Jaynes, S. Kanekal, M. Hudson, and **B. T. Kress** (2015), Variability of the Inner Proton Radiation Belt Observed by Van Allen Probes, Abstract SM41D-2509 (poster), presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Tilton, M., W. Rowland, D. Wilkinson, W. Denig, J. Darnel, **B. T. Kress**, P. Loto'aniu, J. Machol, R. Redmon, and J. Rodriguez (2015), GOES-R Space Weather Data: Ensuring Access and Usability, Abstract IN21D-1710 (poster) presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.

Kress, B. T. and J. V. Rodriguez (2015), Geomagnetic cutoff response to variations in magnetospheric current systems, Poster M12 presented at the 2016 Space Weather Workshop, Boulder, CO., 13-17 April.

Kress, B. T., M. K. Hudson, J. Paral, R. S. Selesnick, S. G Claudepierre, and A. N. Jaynes (2015), The role of substorm injections and ULF driven radial transport in rebuilding the Earth's outer radiation belts, GEM 2015 Summer Workshop, Snowmass, CO, June 14-19 June.

Kress, B. T. and J. V. Rodriguez (2015), Variations in Solar Energetic Particle access to geosynchronous in response to changes in magnetospheric current systems, GEM 2015 Summer Workshop, Snowmass, CO, June 14-19 June.

Engel, M., **B. T. Kress**, M. K. Hudson, and R. S. Selesnick (2015), Simulations of Inner Zone Proton Loss During Geomagnetic Storms, GEM 2015 Summer Workshop, Snowmass, CO, June 14-19 June.

Patel, M., M. K. Hudson, and **B. T. Kress** (2015), Comparison of radial diffusion due to high and low m numberpoloidal mode ULF waves, GEM 2015 Summer Workshop, Snowmass, CO, June 14-19 June.

Kress, B. T., M. K. Hudson, J. Paral, and S. McGregor (2014), Rebuilding of the Earth's Outer Electron Belts During the 9 October 2012 and 17 March 2013 Geomagnetic Storms, Abstract SM22A-06 presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Ukhorskiy, A. Y., M. I. Sitnov, R. M. Millan, **B. T. Kress**, and J. F. Fennell (2014), Global Storm-Time Depletion of the Outer Electron Belt, Abstract SM32A-01 presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Young, S. and **B. T. Kress** (2014), Mapping Geosynchronous Solar Energetic Particle Observations to Lower Earth Orbits, Abstract SM31A-4157 (poster) presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Hudson, M. K., **B. T. Kress**, Z. Li, J. Paral, and M. Wiltberger (2014), Modeling Loss and Rebuilding of the Earth's Outer Zone Electrons and Comparison with Van Allen Probes Measurements, Abstract SM12A-10 (invited oral) presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Paral, J., M. K. Hudson, **B. T. Kress**, J. Wygant, and M. Wiltberger (2014), MHD modeling of ULF wave activity for three Van Allen Probes storms of 2012 and 2013, Abstract SM31D-4233 (poster) presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Engel, M., **B. T. Kress**, M. K. Hudson, and R. S. Selesnick (2014), Test Particle Simulations of Inner Zone Proton Belt Loss During Geomagnetic Storms, Abstract SM31C-4202 (poster) presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Halford, A., R. M. Millan, M. K. Hudson, S. McGregor, and **B. T. Kress** (2014), Observations of Solar Energetic Protons: A Comparison Between Model, Balloon, and In Situ Observations, Abstract SM23B-4206 (poster) presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Rodriguez, J. V., J. Green, **B. T. Kress**, and J. Mazur (2014), Conditions for Accurate Intercalibration of GOES 8-15 Solar Proton Fluxes, 40th COSPAR Scientific Assembly, Moscow, Russia, Abstract id. C0.1-6-14, 2-10 Aug.

Kress, B. T., J. Paral, and M. K. Hudson (2014), Rebuilding of the Earth's Outer Electron Belts During Geomagnetic Storms, GEM 2014 Summer Workshop, Portsmouth, Virginia, June 15-20 June.

Kress, B. T., M. K. Hudson, and J. Paral (2013), Convective Transport in the Earth's Outer Radiation Belts, American Geophysical Union, 2013 Fall AGU Meeting, Abstract #SM22B-07.

Kress, B. T., M. K. Hudson, A. Y. Ukhorskiy, and H. Mueller (2012), Radiation Belt Transport Driven by Solar Wind Dynamic Pressure Fluctuations, Abstract SM22B-02 presented at 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Hudson, M. K., T. V. Brito, S. R. Elkington, **B. T. Kress**, Z. Li, and M. J. Wiltberger (2012), 2D and 3D Simulations of Radiation Belt Response to the Mar-Apr 2008 Whole Heliosphere Interval Corotating Interaction Regions, Abstract SM22B-01 presented at 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Young, S. L., **B. T. Kress**, J. V. Rodriguez, and J. P. McCollough (2012), A Statistical Examination of Magnetic Field Model Accuracy for Mapping Solar Energetic Particle Observations to Remote Locations, Abstract SM23B-2311 presented at the 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Brito, T. V., M. K. Hudson, and **B. T. Kress** (2012), Energetic radiation belt electron precipitation showing ULF modulation, Abstract SM31C-2367 presented at 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Mertens, C. J., W. Tobiska, **B. T. Kress**, and X. Xu (2012), Real-Time Aircraft Cosmic Ray Radiation Exposure Predictions from the NAIRAS Model, Abstract IN33C-1556 presented at 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Ukhorskiy, A. Y., M. I. Sitnov, and **B. T. Kress** (2012), The Complexity of Radial Transport of Radiation Belt Electrons at Earth (Invited), Abstract NG33A-02 presented at 2012 Fall AGU Meeting, San Francisco, CA, 3-7 Dec.

Kress, B. T. and C. J. Mertens (2012), A Real-Time Data-Driven Geomagnetic Cutoff Model for Space Weather Applications, GEM Summer Workshop, Snowmass CO, June 17-22.

Kress, B. T. and J. V. Rodriguez (2012), Geomagnetic Cutoffs at Synchronous Altitude, NOAA/SWPC Space Weather Workshop, Boulder, CO, April 24-27.

Brito, T. V., M. K. Hudson, and **B. T. Kress** (2011), Prompt precipitation and energization of relativistic radiation belt electrons induced by ULF oscillations in the magnetosphere, Abstract SM41A-2006, American Geophysical Union, Fall Meeting 2011.

Hudson, M. K., T. V. Brito, S. R. Elkington, **B. T. Kress**, and Y. Liang (2011), Energization of Radiation Belt Electrons by High and Low Azimuthal Mode Number Poloidal Mode ULF Waves, Abstract SM32A-02, American Geophysical Union, Fall Meeting 2011.

Ukhorskiy, A. Y., M. I. Sitnov, R. M. Millan, and **B. T. Kress** (2011), Properties and Implications of Radial Transport in the Outer Electron Belt, Abstract #SM31C-01, American Geophysical Union, Fall Meeting 2011.

Young, S. L. and **B. T. Kress** (2011), Low Altitude Validation of Geomagnetic Cutoff Models Using SAMPEX Data, Abstract #SM31B-2105, American Geophysical Union, Fall Meeting 2011.

Kress, B. T. and J. V. Rodriguez (2011), Modeling and Observations of the East-West Effect in Solar Energetic Particle Flux at Geosynchronous, Abstract #SM31B-2103, American Geophysical Union, Fall Meeting 2011.

Mertens, C. J., **B. T. Kress**, M. J. Wiltberger, W. Tobiska, and X. Xu (2011), Progress in Space Weather Modeling and Observations Needed to Improve the Operational NAIRAS Model Aircraft Radiation Exposure Predictions, Abstract #SM24B-03, American Geophysical Union, Fall Meeting 2011.

Huang, C., H. E. Spence, H. J. Singer, R. H. Friedel, and **B. T. Kress** (2011), Magnetopause Shadowing Signature During Relativistic Electron Flux Dropout Events, Abstract #SM12B-06, American Geophysical Union, Fall Meeting 2011.

Hudson, M. K., T. V. Brito, S. R. Elkington, **B. T. Kress**, Z. Li, and M. J. Wiltberger (2010), Radiation Belt Electron Response to CME- and CIR-driven Geomagnetic Storms, Abstract SM22B-01 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Wiltberger, M., C. J. Mertens, **B. T. Kress**, and S. C. Solomon (2010), Results from the NAIRAS model for the Halloween Storms, Americal Meterological Socitey, Seventh Symposium on Space Weather, NCAR, Boulder, CO, 17-19 Jan.

Ukhorskiy, A. Y., M. I. Sitnov, R. M. Millan, and **B. T. Kress** (2010), Implications of the Drift Orbit Bifurcations to Variability of the Outer Electron Belt, Abstract SM33C-1911 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Mertens, C. J., W. Tobiska, D. Bouwer, **B. T. Kress**, M. Wiltberger, S. Solomon, and J. Murray (2009), Development of Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) Model, AIAA-2009-3633, Atmospheric and Space Environments Conference of the AIAA, co-sponsored by ARAMand AMS, San Antonio, Texas, 25 June.

Hudson, M. K., **B. T. Kress**, H. Mueller, T. V. Brito, Z. Li, (2009), Radial Transport of Radiation Belt Electrons on Multiple Time Scales, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract #SM21B-06.

Kress, B. T. (2009), Modeling geomagnetic shielding of solar energetic particles and cosmic rays, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract #SM54A-05.

Kress, B, T., C. J. Mertens, and M. Wiltberger (2009), Solar energetic particle cutoff variations during the 26-31 October 2003 geomagnetic storm, NOAA/SWPC Space Weather Workshop, Boulder, CO, 28 April 28 – 1 May.

Maget, V., D. Boscher, T. Cayton, and **B. T. Kress** (2009), CXD multi-measurements and theoretical approaches in the estimation of the Earth magnetic shielding along GPS orbit during the 11th September 2005 Solar Proton Event, Geophysical Research Abstracts, EGU General Assembly 2009, Vol. 11, EGU2009-11246-1.

Chu, F., M. K. Hudson, and **B. T. Kress** (2008), Comparison of LFM-test particle simulations and radial diffusion models of radiation belt electron injection into the slot region, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract SM53A-1664.

Huang, C., H. Spence, **B. T. Kress**, and S. Shepherd (2008), Modeling galactic cosmic rays at lunar orbit, 37th COSPAR Scientific Assembly, 13-20 July 2008, Montreal, Canada, B01-0040-08, p. 1285.

Kress, B, T. (2008), Comparisons Between Modeled and Observed Solar Energetic Particle Cutoff Variations During Geomagnetic Storms, GEM-SHINE Summer Workshop, Zermatt Utah, June 22-27, 2008.

Kress, B. T. (2008), Modeling SEP Cutoff Variations during geomagnetic storms, NOAA/SWPC Space Weather Workshop, Boulder, CO, April 29 - May 2, 2008.

Kress, B. T., M. K. Hudson, C. J. Mertens, S. Shepherd, and S. L. Young (2008), Variations in geomagnetic shielding of energetic solar ions during solar particle events and associated geomagnetic storms, Dartmouth Space Plasma Seminar, Sept. 30 2008.

Kress, B. T., D. Lee, and C. J. Mertens (2008), Variations in geomagnetic shielding of solar energetic particles associated with the arrival of an interplanetary shock at the Earth's magnetosphere, Eos Trans. AGU, 89(53), Fall Meet. Suppl. Abstract SM53A-1660.

Lee, D. and **B. T. Kress** (2008), Geomagnetic Cutoff Variations Due to Interplanetary Shocks, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract SM53A-1661 (Dartmouth undergraduate advisee).

Mertens, C. J., W. K. Tobiska,S. R. Blattnig, **B. T. Kress**, M. J. Wiltberger, S. C. Solomon, J. Kunches, and J. J. Murray (2008), Progress and Status on the Development of NASA's Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) model, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract SA53C-01 (Invited).

Mertens, C. J., S. Blattnig, T. Slaba, **B. T. Kress**, M. J. Wiltberger, and S. Solomon (2008), Radiation dose predictions for SPE events during solar cycle 23 from NASA's Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) model, 37th COSPAR Scientific Assembly. 13-20 July 2008, Montreal, Canada, D23-0031-08, p.2014.

Mertens, C. J., S. R. Blattnig, **B. T. Kress**, M. J. Wiltberger, S. C. Solomon, W. K. Tobiska, J. Kunches, and J. J. Murray (2008), Progress and Status on the Development of NASA's Nowcast of Atmospheric Ionizing Radiation for Aviation Safety (NAIRAS) model, NOAA/SWPC Space Weather Workshop, Boulder, Colorado, April 29 - May 2, 2008.

Kress, B. T. (2007), Comparisons Between Modeled and Observed Geomagnetic Cutoff Variations During Geomagnetic Storms, Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract SM23C-05.

Kress, B. T., M. K. Hudson, and J. E. Mazur (2007), Geomagnetic Cutoff Variations in Response to Changes in Solar Wind Conditions, NOAA / Space Weather Prediction Center, Space Weather Workshop, April 24-27, Boulder CO.

Kress, B. T., M. K. Hudson, C. C. Goodrich, and M. D. Looper (2007), 3D Test Particle Simulations of the Injection of Ultra-relativistic Radiation Belt Electrons During the 29 Oct 2003 (Halloween) SSC, 2007 Fall AGU Meeting, abstract #SM43B-03.

Kress, B. T. and M. K. Hudson (2006), Modeling solar energetic particle flux in the magnetosphere using global Magnetohydrodynamics, 2006 Fall AGU Meeting, abstract #SH31A-0381.

Kress, B. T. and M. K. Hudson (2005), A Numerical Study of the Injection of Relativistic Electrons into the Radiation Belts During the 29-31 Oct 2003 (Haloween) Geomagnetic Storm, Spring AGU Meeting 2005, abstract #SM43B-09.

Kress, B. T., M. K. Hudson, and P. L. Slocum (2004), Solar Energetic Particle Entry and Trapping in the Magnetosphere During Geomagnetic Storms, 2004 Fall AGU Meeting, abstract #SM41A-1108.

Kress, B. T., M. K. Hudson, and K. L. Perry (2003), Dynamic Modeling of Solar Energetic Particle Cutoffs During Geomagnetic Storms, 2003 Fall AGU Meeting, abstract #SH42A-0483.

Kress, B. T. and D. C. Montgomery (2001), Spectral method computations with identically satisfied boundary conditions, Bull. Am. Phys. Soc. 46, No. 10, p. 32, (Oral Presentation at the 54th Annual APS/DFD Meeting).

Kress, B. T. and D. C. Montgomery (1999), No slip pressures in wall bounded flows, Bull. Am. Phys. Soc. 44, No. 8, p. 85, (Oral Presentation at the 52nd Annual APS/DFD Meeting).

Kress, B. T. and Z. Cummings (1992), Split Beam Reflection Holography, Presented at 12th Annual Rochester Symposium for physics students, University of Rochester.