Jasper S. Halekas

Physics and Astronomy

Curriculum Vitae as of January 10, 2024

Campus Address: 414 Van Allen, University of Iowa
Phone: (319) 335-1929
E-mail: jasper-halekas@uiowa.edu

EDUCATION AND PROFESSIONAL HISTORY

Higher Education

2003	**PhD**, Physics, University of California Berkeley
2000	**MA**, Physics, University of California Berkeley
1997	**BS**, Math, Magna Cum Laude, University of Washington
1997	**BS**, Physics, Magna Cum Laude, University of Washington

Professional and Academic Positions

2022 - Present	**Professor**, University of Iowa
2014 - 2022	**Associate Professor**, University of Iowa
2011 - 2014	**Associate Research Physicist II**, University of California Berkeley
2009 - 2011	**Assistant Research Physicist V**, University of California Berkeley
2007 - 2009	**Assistant Research Physicist III**, University of California Berkeley
2005 - 2007	**Assistant Research Physicist I**, University of California Berkeley
2003 - 2005	**Visiting Postdoctoral Research Physicist**, University of California Berkeley
1998 - 2003	**Graduate Student Researcher**, University of California Berkeley
1996 - 1998	**Undergraduate Research**, University of Washington
1995	**Undergraduate Research**, University of California Berkeley
1993 - 1994	**Undergraduate Research**, University of Washington

Honors and Awards (* = individual award)

2024	**AGU Certificate of Recognition***, *American Geophysical Union,* In appreciation for service to AGU and the scientific community as editor of Reviews of Geophysics.
2023	**Group Achievement Award for Parker Solar Probe Team,** *NASA,* For outstanding, proactive teamwork that dramatically increased the scope and volume of data returned by Parker Solar Probe and demonstrably increased its science return.
2022	**Collegiate Scholar Award***, *College of Liberal Arts and Sciences*, University of Iowa.
2020	**Editor's Citation for Excellence in Refereeing***, *Geophysical Research Letters*, For outstanding service to the authors and readers of Geophysical Research Letters.
2019	**Collegiate Teaching Award***, *College of Liberal Arts and Sciences*, University of Iowa.
2019	**NASA Silver Achievement Medal for Parker Solar Probe Team**, *NASA*, For a stellar achievement that supports NASA's core values.
2019	**Exceptional Achievement Award for Science Team for DREAM2 Center for Space Environments**, *NASA*, For exceptional applications of space environmental science to exploration endeavors.
2018	**Group Achievement Award for MAVEN Mission Team**, *NASA*, For unlocking the mysteries of Mars atmosphere loss through exceptional operation and utilization of MAVEN.
2016	**Exceptional Scientific Achievement Medal***, *NASA*, For exceptional contributions to MAVEN's science return using the Solar Wind Ion Analyzer (SWIA) instrument.
2016	**Group Achievement Award for Science Team for MAVEN Mission**, *NASA*, For achieving exciting science results and making fundamental discoveries about the Mars environment from the MAVEN spacecraft.
2015	**Editor's Citation for Excellence in Refereeing***, *Geophysical Research Letters*, For outstanding service to the authors and readers of Geophysical Research Letters.

2014	**Exceptional Achievement Award for Engineering Team for MAVEN Mission**, *NASA*, For the outstanding team that delivered on all MAVEN technical, schedule, and cost commitments through launch for Goddard's first mission to Mars.
2001 - 2003	**NASA Graduate Student Researchers Program***, *NASA*, University of California Berkeley.
2000	**NASA Space Grant Summer Fellowship***, *California Space Grant Consortium (NASA)*, University of California Berkeley.
1998 - 1999	**Department of Education Fellowship***, *Department of Education*, University of California Berkeley.
1993 - 1997	**NASA Space Grant Scholarship***, *Washington State Space Grant Consortium (NASA)*, University of Washington.

Memberships

1996 – Present	American Geophysical Union
2023 – Present	American Association for the Advancement of Science
2017 - 2018	American Association for the Advancement of Science

TEACHING

Courses Taught at the University of Iowa

Term	Course#	Title	Ten-Day Enrollment	Final Enrollment
Fall 2023	PHYS:3811:0001	Electricity and Magnetism I	21	21
Fall 2023	ASTR:7991:2605	Research: Astronomy	1	1
Fall 2023	PHYS:7990:2651	Research: Physics	3	3
Spring 2023	PHYS:5812:0001	Classical Electrodynamics II	9	9
Spring 2023	ASTR:7991:0663	Research: Astronomy	1	1
Spring 2023	PHYS:7990:0088	Research: Physics	2	2
Fall 2022	PHYS:5811:0001	Classical Electrodynamics I	7	7
Fall 2022	ASTR:7991:8102	Research: Astronomy	1	1
Fall 2022	PHYS:7990:8099	Research: Physics	2	2
Spring 2022	PHYS:5812:0001	Classical Electrodynamics II	9	9
Spring 2022	ASTR:7991:5560	Research: Astronomy	1	1
Spring 2022	PHYS:7990:6119	Research: Physics	2	2
Fall 2021	PHYS:5811:0001	Classical Electrodynamics I	11	11
Fall 2021	ASTR:7991:3962	Research: Astronomy	1	1
Fall 2021	PHYS:7990:3949	Research: Physics	2	2
Spring 2021	PHYS:3710:0001	Intermediate Mechanics	22	18

Term	Course#	Title	Ten-Day Enrollment	Final Enrollment
Spring 2021	ASTR:7991:2298	Research: Astronomy	2	2
Spring 2021	PHYS:7990:2257	Research: Physics	2	2
Fall 2020	ASTR:7991:9651	Research: Astronomy	1	1
Fall 2020	PHYS:7990:0679	Research: Physics	1	1
Fall 2020	ASTR:7830:0001	Space and Astrophysical Plasma Physics	17	17
Fall 2020	PHYS:4999:0248	Undergraduate Research	1	1
Summer 2020	PHYS:7990:9177	Research: Physics	1	1
Spring 2020	PHYS:3812:0001	Electricity and Magnetism II	17	18
Spring 2020	ASTR:7991:8150	Research: Astronomy	1	1
Spring 2020	PHYS:7990:7295	Research: Physics	3	3
Fall 2019	PHYS:3811:0001	Electricity and Magnetism I	24	23
Fall 2019	ASTR:7991:5161	Research: Astronomy	1	1
Fall 2019	PHYS:7990:5222	Research: Physics	2	2
Spring 2019	PHYS:3812:0001	Electricity and Magnetism II	23	23
Spring 2019	ASTR:7991:3779	Research: Astronomy	1	1
Spring 2019	PHYS:7990:3323	Research: Physics	3	3
Fall 2018	PHYS:3811:0001	Electricity and Magnetism I	20	19
Fall 2018	ASTR:7991:1382	Research: Astronomy	1	1
Fall 2018	PHYS:7990:0883	Research: Physics	3	3
Spring 2018	PHYS:2704:0AAA	Physics IV	35	30
Spring 2018	PHYS:2704:0BBB	Physics IV	3	5
Spring 2018	ASTR:7991:0143	Research: Astronomy	1	1
Spring 2018	PHYS:7990:8882	Research: Physics	2	2
Spring 2018	ASTR:7970:0001	Seminar: Astrophysics	2	2
Spring 2018	PHYS:4999:8609	Undergraduate Research	1	1
Fall 2017	PHYS:7990:6555	Research: Physics	2	2

Term	Course#	Title	Ten-Day Enrollment	Final Enrollment
Fall 2017	ASTR:7830:0001	Space and Astrophysical Plasma Physics	16	16
Fall 2017	PHYS:4999:8254	Undergraduate Research	1	1
Spring 2017	HONR:3050:4738	Honors Studies	1	1
Spring 2017	PHYS:2704:0AAA	Physics IV	30	27
Spring 2017	PHYS:2704:0BBB	Physics IV	2	2
Spring 2017	ASTR:7991:4690	Research: Astronomy	1	1
Spring 2017	PHYS:7990:4685	Research: Physics	3	3
Spring 2017	URES:3992:5655	Undergraduate Research/Creative Projects	1	1
Fall 2016	PHYS:1511:0AAA	College Physics I	301	288
Fall 2016	HONR:3994:3587	Honors Research Practicum	1	1
Fall 2016	ASTR:7991:1539	Research: Astronomy	1	1
Fall 2016	PHYS:7990:1854	Research: Physics	3	3
Fall 2016	PHYS:4999:3499	Undergraduate Research	1	1
Fall 2016	URES:3992:3597	Undergraduate Research/Creative Projects	2	2
Summer 2016	URES:3992:2832	Undergraduate Research/Creative Projects	1	1
Spring 2016	PHYS:1702:000A	Physics II	24	23
Spring 2016	PHYS:7990:0052	Research: Physics	2	2
Fall 2015	PHYS:1511:0AAA	College Physics I	284	277
Fall 2015	PHYS:7990:0052	Research: Physics	2	2
Summer 2015	PHYS:7990:0052	Research: Physics	2	2
Spring 2015	PHYS:1702:000A	Physics II	23	21

Student Mentoring

BA - Supervised Research

Summer 2018 - 2020 — Kistler, Michael; *Completed,* Went on to masters of education program. Conducted research with ARTEMIS data from the Moon, resulting in a peer-reviewed publication in Advances in Space Research. Charles A. Wert award winner.

BS – Academic Advisor

2021 - Present — Hancock, Griffin; *In Process*

2020 - 2021	Strange, Mitchell; *Completed*
2018 - 2021	Peters, Eric; *Completed*
2018 - 2020	Lyu, Tailin; *Completed*
2018 - May 2019	Song, Shuo; *Completed*, Went on to graduate school.

BS - Supervised Research

2021 - 2023	Peters, Melissa, *Completed*
Fall 2020	Nandanwar, Siddharth, *Completed*
Summer 2020 – Spring 2021	Leali, Alexis; *Completed,* Went on to work as research intern. Iowa Space Grant Hands-On research program winner.
Summer 2018 - May 2019	Cowsky, Jacob; *Completed,* Worked on sounding rocket eventually launched into space, Went on to graduate school.
Summer 2018 - May 2019	Garcia, Brandon; *Completed,* Worked on sounding rocket eventually launched into space, Went on to graduate school.
August 2016 - May 2019	Lipman, Dani; *Completed,* Went on to graduate school. Space Grant Scholar.
Summer 2016 - Fall 2017	Reed, Logan Kelly; *Completed*
Summer 2017	Reed, Mason; *Completed*
Summer 2016 - Spring 2017	Raman, Caleb; *Completed,* Went on to graduate school. Charles A. Wert award winner.
August 2016 - December 2016	Larson, Joshua; *Completed,* Went on to graduate school.
Summer 2016	Khan, Kallin; *Completed,* ICRU Fellow.
Summer 2016 - Winter 2016	Xie, Tianshi; *Completed*
Winter 2015 - Summer 2016	Schmitz, Frank; *Completed,* Went on to professional engineering career.
Fall 2015 - Winter 2015	Sink, Joseph; *Completed,* Went on to graduate school.
Summer 2015	Isbell, Jacob; *Completed,* Went on to graduate school. Charles A. Wert award winner.
Summer 2015	Parker, Devin; *Completed*

MS – MS Advisor

Summer 2015 - Spring 2017	Tiedeken, Staci; *Completed, Magnetism and Geology of the Moon,* Went on to science outreach position at NASA Goddard Space Flight Center.
Spring 2018 - August 2019	Henderson, Sarah; *Completed, An Analysis of Precipitating Solar Wind Hydrogen at Mars: Observations by the MAVEN Spacecraft*, Space Grant Fellowship Winner. Went on to data analysis position at Science Systems and Applications, Inc.

MS - Master's Thesis Committee Member

January 2017 - June 2017	Tetrick, Sadie; *Completed*

PhD - Dissertation Committee Member

May 2022 - Present	Brown, Collin; *All but Dissertation*
April 2022 – Present	Feltman, Connor; *All but Dissertation*
April 2022 – Present	Greene, Kenton; *All but Dissertation*
April 2022 - Present	Chepuri, Sanjay; *All but Dissertation*
January 2021 – May 2023	Horvath, Sarah; *Completed*
January 2021 – May 2023	Troyer, Riley; *Completed*
April 2019 – December 2021	McCubbin, Andrew; *Completed*
Spring 2015 - Present	Holdaway, Robert; *Not Completed*
April 2019 - November 2020	Afshari, Arya; *Completed*
December 2016 - July 2017	Scheiner, Brett; *Completed*
Spring 2014 - Summer 2015	Hemingway, Doug; *Completed (U.C. Santa Cruz)*

PhD - Ph.D. Advisor

Spring 2024 – Present	Wen, Yuanzheng, *In Process*, *MAVEN observations of dynamic processes in the Martian magnetotail*.
Fall 2023 - Present	Moore, Aidan, *In Process*, Topic TBD.
Spring 2021 - Present	Fruchtman, Jacob; *All but Dissertation, Seasonal and Mach Number Variation of the Martian Bow Shock Structure.* Pfeiffer/Maltby Scholarship Winner.
Spring 2021 - Present	Nair, Raaman; *All but Dissertation, Switchbacks in the Young Solar Wind: Electron Evolution Observed Inside Switchbacks Between 0.125 and 0.25 AU.*
Fall 2021 – Fall 2023	Henderson, Sarah; *Completed*, *Characterizing Global Behaviors of Precipitating Solar Wind Hydrogen in the Martian Atmosphere* Iowa Space Grant Fellowship Winner. Pierazzo International Student Travel Award Winner. Went on to postdoctoral research position at Montana State University.
August 2016 - May 2021	McGinnis, Daniel; *Completed, Electron Measurements of the Nascent Solar Wind with the Parker Solar Probe.* Went on to postdoctoral research position with another group at Iowa.
Summer 2015 - May 2021	Andreone, Gian; *Completed, Improving Electron Measurements in Space Plasmas Through Instrument Design and Data Analysis.* Pfeiffer Family Scholarship Winner. Went on to postdoctoral research position at Princeton.
May 2019 - June	Elliott, Sadie; *Completed, Whistler-Mode Waves and the*

2020	*Acceleration of Energetic Electrons in the Jovian Polar Region: Observations from the Juno Spacecraft* (Became Ph.D. Advisor after Prof. Gurnett's retirement). Went on to postdoctoral research position at Iowa, and then research scientist position at Minnesota.
Summer 2015 - May 2020	Howard, Stephanie; *Completed, Resonant Interactions Between Ultra Low Frequency Waves and Reflected Ions in the Lunar Plasma Environment*, Space Grant Fellowship winner, Pfeiffer Family Scholarship winner, AGU Outstanding Student Presentation award winner. Went on to postdoctoral research position at NASA Goddard Space Flight Center.

PhD - Supervised Teaching Activity

January 2017 - May 2017	Heitritter, Kenneth
August 2016 - December 2016	Alhusseini, Mohammad
August 2016 - December 2016	Gustafson, Erik
August 2016 - December 2016	Holdaway, Robert
August 2016 - December 2016	Martinez Martinez, Manuel
August 2016 - December 2016	Schrock, Katrina
Spring 2016	McGinnis, Daniel
Fall 2015	Berumen Canto, Jorge
Fall 2015	Kuthini Kunhammed, Sirajudheen
Fall 2015	McMillan, Stephen
Fall 2015	Unmuth-Yockey, Judah
Spring 2015	Whiting, Catherine

Engineer

November 2021 - Present	Sheets, David
September 2016 - September 2019	Macias, Rafael

Postdoctoral Research Supervision

September 2022 - Present	Shen, Han-Wen
August 2021 - Present	Sawyer, Rhyan
January 2022 – April 2023	Joshi, Dev; *Went on to position at NASA*.
January 2019 – June 2021	Cao, Xin; *Went on to position at University of Colorado.*
Fall 2018 – Fall 2020	Chu, Feng; *Went on to position at Los Alamos National Laboratory.*

October 2018 - December 2019	Madanian, Hadi; *Went on to position at Southwest Research Institute.*
January 2016 - October 2017	Lue, Charles; *Went on to position at Swedish Institute of Space Physics.*
Summer 2015 - June 2017	Walker, Jeffrey; *Went on to employment in the Netherlands*.
Summer 2014 - January 2017	Ruhunusiri, Suranga; *Promoted to Assistant Research Scientist/Engineer*

Research Intern

August 2019 - August 2021	Jones, Nicholas; *Accepted to graduate school in Physics at the University of New Hampshire for Fall 2021.* Conducted research with MAVEN data, resulting in a peer-reviewed publication submitted to Geophysical Research Letters.

Research Scientist

May 2019 - Present	Kurth, William
August 2018 – December 2023	Girazian, Zachary. Started as assistant research scientist, promoted to associate.
January 2017 – June 2023	Ruhunusiri, Suranga. Started as assistant research scientist, promoted to associate. *Went on to position at C.U. Boulder.*
2018-2020	Kopf, Andy; *Went on to research position at US Naval Observatory.*
2017-2018	Harada, Yuki; *Went on to position as Assistant Professor at the University of Kyoto.*

SCHOLARSHIP

Publications

CLAS * System * = Senior Author, Major Contribution, ** = Secondary Contribution, *** = Equal Contribution, **** = Minor Contribution

Refereed Articles

375. ** Klein, K. G., Spence, H., Alexandrova, O., Argall, M., Arzamasskiy, L., Bookbinder, J., Broeren, T., Caprioli, D., Case, A., Chandran, B., Chen, L.-J., Dors, I., Eastwood, J., Forsyth, C., Galvin, A., Genot, V., Halekas, J., Hesse, M., Hine, B., Horbury, T., Jian, L., Kasper, J., Kretzschmar, M., Kunz, M., Lavraud, B., Le Contel, O., Mallet, A., Maruca, B., Matthaeus, W., Niehof, J., O'Brien, H., Owen, C., Retinò, A., Reynolds, C., Roberts, O., Schekochihin, A., Skoug, R., Smith, C., Smith, S., Steinberg, J., Stevens, M., Szabo, A., TenBarge, J., Torbert, R., Vasquez, B., Verscharen, D., Whittlesey, P., Wickizer, B., Zank, G., & Zweibel, E. (2023), HelioSwarm: A Multipoint, Multiscale Mission to Characterize Turbulence, *Space Science Reviews, 219*, 74.
374. * Halekas, J. S., Shaver, S., Azari, A. R., Fowler, C. M., Ma, Y., Xu, S., Andersson, L., Bertucci, C., Curry, S. M., Dong, C., Dong, Y., Fang, X., Garnier, P., Hanley, K. G., Hara, T., Howard, S. K., Hughes, A., Lillis, R. J., Lee, C. O., Luhmann, J. G., Madanian, H., Marquette, M., Mazelle, C., McFadden, J. P., Meziane, K., Mitchell, D. L., Rahmati, A., Reed, W., Romanelli, N., & Schnepf, N. R. (2023), The Day the Solar Wind Disappeared at Mars, *Journal of Geophysical Research (Space Physics), 128*, e2023JA031935.
373. * Shen, H.-W., Halekas, J. S., & Poppe, A. R. (2023), Limits on the Density of the Lunar Ionosphere: ARTEMIS Observations, *The Astrophysical Journal, 958*, 165.
372. *** Xu, S., Luhmann, J. G., Mitchell, D. L., Weber, T., Brain, D. A., Ma, Y., Curry, S. M., DiBraccio, G. A., Halekas, J., Ruhunusiri, S., Mazelle, C., Lillis, R. J., & Langlais, B. (2023), Open Magnetic Fields in

the Martian Magnetosphere Revealing Dipole-like Intrinsic Magnetic Fields at Mars, *The Astrophysical Journal, 957*, L29.

371. *** Zhang, C., Nilsson, H., Ebihara, Y., Yamauchi, M., Persson, M., Rong, Z., Zhong, J., Dong, C., Chen, Y., Zhou, X., Sun, Y., Harada, Y., Halekas, J., Xu, S., Futaana, Y., Shi, Z., Yuan, C., Yun, X., Fu, S., Gao, J., Holmström, M., Wei, Y., & Barabash, S. (2023), Detection of magnetospheric ion drift patterns at Mars, *Nature Communications, 14*, 6866.
370. *** Xu, S., Poppe, A. R., Szabo, P. S., Harada, Y., Halekas, J. S., & Chamberlin, P. C. (2023), Characteristics of Lunar Surface Electrons Inferred From ARTEMIS Observations: 1. Backscattered Electrons, *Journal of Geophysical Research (Planets), 128*, e2023JE007983.
369. *** Hughes, A. C. G., Chaffin, M., Mierkiewicz, E., Deighan, J., Jolitz, R. D., Kallio, E., Gronoff, G., Shematovich, V., Bisikalo, D., Halekas, J., Simon Wedlund, C., Schneider, N., Ritter, B., Girazian, Z., Jain, S., Gérard, J.-C., & Hegyi, B. (2023), Advancing Our Understanding of Martian Proton Aurora Through a Coordinated Multi-Model Comparison Campaign, *Journal of Geophysical Research (Space Physics), 128*, e2023JA031838.
368. ** Kato, M., Harada, Y., Xu, S., Poppe, A. R., Halekas, J. S., Miyake, Y., Usui, H., Nishino, M. N., & Matsumoto, T. (2023), Modeling Photoelectron and Auger Electron Emission From the Sunlit Lunar Surface: A Comparison With ARTEMIS Observations, *Journal of Geophysical Research (Space Physics), 128*, e2023JA031707.
367. ** Bandyopadhyay, R., Meyer, C. M., Matthaeus, W. H., McComas, D. J., Cranmer, S. R., Halekas, J. S., Huang, J., Larson, D. E., Livi, R., Rahmati, A., Whittlesey, P. L., Stevens, M. L., Kasper, J. C., & Bale, S. D. (2023), Estimates of Proton and Electron Heating Rates Extended to the Near-Sun Environment, *The Astrophysical Journal, 955*, L28.
366. **** Fang, X., Ma, Y., Luhmann, J., Dong, Y., Halekas, J., & Curry, S. (2023), Mars Global Distribution of the External Magnetic Field and Its Variability: MAVEN Observation and MHD Prediction, *Journal of Geophysical Research (Space Physics), 128*, e2023JA031588.
365. *** Boscoboinik, G., Bertucci, C., Gomez, D., Dong, C., Regoli, L., Mazelle, C., Halekas, J., Espley, J., Fowler, C. M., Mitchell, D., & Andersson, L. (2023), Forces, electric fields and currents at the subsolar martian MPB: MAVEN observations and multifluid MHD simulation, *Icarus, 401*, 115598.
364. ** Huang, J., Kasper, J. C., Larson, D. E., McManus, M. D., Whittlesey, P., Livi, R., Rahmati, A., Romeo, O., Liu, M., Jian, L. K., Verniero, J. L., Velli, M., Badman, S. T., Rivera, Y. J., Niembro, T., Paulson, K., Stevens, M., Case, A. W., Bowen, T. A., Pulupa, M., Bale, S. D., & Halekas, J. S. (2023), The Temperature, Electron, and Pressure Characteristics of Switchbacks: Parker Solar Probe Observations, *The Astrophysical Journal, 954*, 133.
363. * Telloni, D., Romoli, M., Velli, M., Zank, G. P., Adhikari, L., Zhao, L., Downs, C., Halekas, J. S., Verniero, J. L., McManus, M. D., Shi, C., Burtovoi, A., Susino, R., Spadaro, D., Liberatore, A., Antonucci, E., De Leo, Y., Abbo, L., Frassati, F., Jerse, G., Landini, F., Nicolini, G., Pancrazzi, M., Russano, G., Sasso, C., Andretta, V., Da Deppo, V., Fineschi, S., Grimani, C., Heinzel, P., Moses, J. D., Naletto, G., Stangalini, M., Teriaca, L., Uslenghi, M., Bale, S. D., & Kasper, J. C. (2023), Energy Budget in the Solar Corona, *The Astrophysical Journal, 954*, 108.
362. ** Bhattacharyya, D., Clarke, J. T., Mayyasi, M., Shematovich, V., Bisikalo, D., Chaufray, J. Y., Thiemann, E., Halekas, J., Schmidt, C., Bertaux, J. L., Chaffin, M. S., & Schneider, N. M. (2023), Evidence of Non-Thermal Hydrogen in the Exosphere of Mars Resulting in Enhanced Water Loss, *Journal of Geophysical Research (Planets), 128*, e2023JE007801.
361. * Fruchtman, J., Halekas, J., Gruesbeck, J., Mitchell, D., & Mazelle, C. (2023), Seasonal and Mach Number Variation of the Martian Bow Shock Structure, *Journal of Geophysical Research (Space Physics), 128*, e2023JA031759.
360. ** Cheng, L., Lillis, R., Wang, Y., Mittelholz, A., Xu, S., Mitchell, D. L., Johnson, C., Su, Z., Halekas, J. S., Langlais, B., Zhang, T., Wang, G., Xiao, S., Zou, Z., Wu, Z., Chi, Y., Pan, Z., Liu, K., Hao, X., Li, Y., Chen, M., Espley, J., & Eparvier, F. (2023), Martian Bow Shock Oscillations Driven by Solar Wind Variations: Simultaneous Observations From Tianwen-1 and MAVEN, *Geophysical Research Letters, 50*, e2023GL104769.
359. * Sawyer, R. P., Halekas, J. S., Bonnell, J. W., Chen, L. J., McFadden, J., Glassmeier, K. H., Harada, Y., & Stanier, A. (2023), Does Magnetic Reconnection Occur in the Near Lunar Surface Environment?, *Geophysical Research Letters, 50*, e2023GL104733.
358. * Cao, X., Halekas, J. S., Haaland, S., Ruhunusiri, S., & Glassmeier, K.-H. (2023), Using machine learning to characterize solar wind driving of convection in the terrestrial magnetotail lobes, *Frontiers in*

Astronomy and Space Sciences, 10, 1180410.

357. **** Huang, J., Kasper, J. C., Fisk, L. A., Larson, D. E., McManus, M. D., Chen, C. H. K., Martinović, M. M., Klein, K. G., Thomas, L., Liu, M., Maruca, B. A., Zhao, L., Chen, Y., Hu, Q., Jian, L. K., Verniero, J. L., Velli, M., Livi, R., Whittlesey, P., Rahmati, A., Romeo, O., Niembro, T., Paulson, K., Stevens, M., Case, A. W., Pulupa, M., Bale, S. D., & Halekas, J. S. (2023), The Structure and Origin of Switchbacks: Parker Solar Probe Observations, *The Astrophysical Journal, 952*, 33.
356. * Halekas, J. S., Bale, S. D., Berthomier, M., Chandran, B. D. G., Drake, J. F., Kasper, J. C., Klein, K. G., Larson, D. E., Livi, R., Pulupa, M. P., Stevens, M. L., Verniero, J. L., & Whittlesey, P. (2023), Quantifying the Energy Budget in the Solar Wind from 13.3 to 100 Solar Radii, *The Astrophysical Journal, 952*, 26.
355. *** Ramstad, R., Brain, D. A., Dong, Y., Halekas, J. S., McFadden, J. M., Mitchell, D. L., Espley, J., Eparvier, F. G., & Jakosky, B. M. (2023), Solar wind driven influences on the Martian oxygen corona: Constraints on atmospheric sputtering from a synthesis of MAVEN measurements during solar minimum, *Icarus, 397*, 115491.
354. ** Wedlund, C. S., Volwerk, M., Mazelle, C., Rojas Mata, S., Stenberg Wieser, G., Futaana, Y., Halekas, J., Rojas-Castillo, D., Bertucci, C., & Espley, J. (2023), Statistical distribution of mirror-mode-like structures in the magnetosheaths of unmagnetised planets - Part 1: Mars as observed by the MAVEN spacecraft, *Annales Geophysicae, 41*, 225.
353. ** Ram, L., Rout, D., Rathi, R., Mondal, S., Sarkhel, S., & Halekas, J. (2023), A Comparison of the Impacts of CMEs and CIRs on the Martian Dayside and Nightside Ionospheric Species, *Journal of Geophysical Research (Planets), 128*, e2022JE007649.
352. *** Huang, J., Kasper, J. C., Larson, D. E., McManus, M. D., Whittlesey, P., Livi, R., Rahmati, A., Romeo, O., Klein, K. G., Sun, W., van der Holst, B., Huang, Z., Jian, L. K., Szabo, A., Verniero, J. L., Chen, C. H. K., Lavraud, B., Liu, M., Badman, S. T., Niembro, T., Paulson, K., Stevens, M., Case, A. W., Pulupa, M., Bale, S. D., & Halekas, J. S. (2023), Parker Solar Probe Observations of High Plasma β Solar Wind from the Streamer Belt, *The Astrophysical Journal Supplement Series, 265*, 47.
351. *** Dong, Y., Brain, D. A., Ramstad, R., Fang, X., McFadden, J. P., Halekas, J. S., Eparvier, F., Espley, J. R., Gruesbeck, J. R., & Jakosky, B. M. (2023), The dependence of Martian ion escape on solar EUV irradiance as observed by MAVEN, *Icarus, 393*, 115288.
350. ** Girazian, Z., Halekas, J., & Lillis, R. J. (2023), Solar cycle and seasonal variability of the nightside ionosphere of Mars: Insights from five years of MAVEN observations, *Icarus, 393*, 114615.
349. ** Jolitz, R. D., Rahmati, A., Brain, D. A., Lee, C. O., Lillis, R. J., Thiemann, E., Eparvier, F., Mitchell, D., Halekas, J., Larson, D., Curry, S. M., & Jakosky, B. M. (2023), Energy Input of EUV, Solar Wind, and SEPs at Mars: MAVEN Observations During Solar Minimum, *Journal of Geophysical Research (Space Physics), 128*, e2022JA030884.
348. ** Shi, C., Velli, M., Lionello, R., Sioulas, N., Huang, Z., Halekas, J. S., Tenerani, A., Réville, V., Dakeyo, J.-B., Maksimović, M., & Bale, S. D. (2023), Proton and Electron Temperatures in the Solar Wind and Their Correlations with the Solar Wind Speed, *The Astrophysical Journal, 944*, 82.
347. *** Fowler, C. M., Hanley, K. G., McFadden, J., Halekas, J., Schwartz, S. J., Mazelle, C., Chaffin, M., Mitchell, D., Espley, J., Ramstad, R., Dong, Y., & Curry, S. (2022), A MAVEN Case Study of Radial IMF at Mars: Impacts on the Dayside Ionosphere, *Journal of Geophysical Research (Space Physics)*, *127*, e2022JA030726.
346. **** Deniau, A., Nénon, Q., André, N., Mazelle, C., Rahmati, A., Fowler, C. M., Poppe, A. R., McFadden, J. P., Halekas, J. S., Penou, E. (2022), MAVEN Proton Observations Near the Martian Moon Phobos: Does Phobos Backscatter Solar Wind Protons?, *Geophysical Research Letters, 49*, e2022GL101014.
345. * Sawyer, R. P., Halekas, J. S. (2022), Survey of Electron Heating and Implications for Wave-Particle Interactions Near the Lunar Surface: ARTEMIS Observations, *Journal of Geophysical Research (Space Physics), 127,* e030740.
344. ** Dakeyo, J.-B., Maksimovic, M., Démoulin, P., Halekas, J., and Stevens, M. L. (2022), Statistical Analysis of the Radial Evolution of the Solar Winds between 0.1 and 1 au and Their Semiempirical Isopoly Fluid Modeling, *The Astrophysical Journal, 940*, 130.
343. *** Short, B., Malaspina, D. M., Halekas, J., Romeo, O., Verniero, J. L., Finley, A. J., Kasper, J. C., Rahmati, A., Bale, S. D., Bonnell, J. W., Case, A. W., Dudok de Wit, T., Goetz, K., Goodrich, K., Harvey, P. R., Korreck, K. E., Larson, D., Livi, R., MacDowall, R. J., Pulupa, M., Stevens, M. L., Whittlesey, P. (2022), Observations of Quiescent Solar Wind Regions with Near-f_{ce} Wave Activity, *The Astrophysical*

Journal, 940, 45.

342. ** Poppe, A. R., Halekas, J. S., and Harada, Y. (2022), A Comprehensive Model for Pickup Ion Formation at the Moon", *Journal of Geophysical Research (Planets), 127*, e2022JE007422.
341. **** Livi, R., Larson, D. E., Kasper, J. C., Abiad, R. ; Case, A. W., Klein, K. G., Curtis, D. W., Dalton, G., Stevens, M., Korreck, K. E., Ho, G., Robinson, M., Tiu, C., Whittlesey, P. L., Verniero, J. L., Halekas, J., McFadden, J., Marckwordt, M., Slagle, A., Abatcha, M., Rahmati, A., McManus, M. D. (2022), The Solar Probe ANalyzer-Ions on the Parker Solar Probe, *The Astrophysical Journal, 938*, 138.
340. *** Palmerio, E., Lee, C. O., Richardson, I. G., Nieves-Chinchilla, T., Dos Santos, L. F. G., Gruesbeck, J. R., Nitta, N. V., Mays, M. L., Halekas, J. S., Zeitlin, C., Xu, S., Holmström, M., Futaana, Y., Mulligan, T., Lynch, B. J., Luhmann, J. G. (2022), CME Evolution in the Structured Heliosphere and Effects at Earth and Mars During Solar Minimum, *Space Weather, 20*, e2022SW003215.
339. *** Xu, S., Mitchell, D. L., McFadden, J. P., Fowler, C. M., Hanley, K., Weber, T., Brain, D. A., DiBraccio, G. A., Liemohn, M. W., Lillis, R. J., Halekas, J. S., Ruhunusiri, S., Andersson, L., Mazelle, C., Curry, S. M. (2022), Nightside Auroral Electrons at Mars: Upstream Drivers and Ionospheric Impact, *Journal of Geophysical Research (Space Physics), 127*, e30801.
338. *** Chaffin, M. S., Fowler, C. M., Deighan, J., Jain, S., Holsclaw, G., Hughes, A., Ramstad, R., Dong, Y., Brain, D., AlMazmi, H., Chirakkil, K., Correira, J., England, S., Evans, J. S., Fillingim, M., Lillis, R., Lootah, F., Raghuram, S., McFadden, J., Halekas, J., Espley, J., Schneider, N., Mayyasi, M., Lee, C. O., Curry, S., AlMatroushi, H. (2022), Patchy Proton Aurora at Mars: A Global View of Solar Wind Precipitation Across the Martian Dayside From EMM/EMUS, Geophysical Research Letters, 49, e99881.
337. * Nair, R., Halekas, J. S., Whittlesey, P. L., Larson, D. E., Livi, R., Berthomier, M., Kasper, J. C., Case, A. W., Stevens, M. L., Bale, S. D., MacDowall, R. J., Pulupa, M. P. (2022), Switchbacks in the Young Solar Wind: Electron Evolution Observed inside Switchbacks between 0.125 au and 0.25 au, *The Astrophysical Journal, 936*, 164.
336. **** Malaspina, D. M., Chasapis, A., Tatum, P., Salem, C., Bale, S. D., Bonnell, J. W., Dudok de Wit, T., Goetz, K., Pulupa, M., Halekas, J., Whittlesey, P., Livi, R., Case, A. W., Stevens, M. L., Larson, D. (2022), Inhomogeneous Kinetic Alfvén Waves in the Near-Sun Solar Wind, *The Astrophysical Journal, 936*, 128.
335. * Halekas, J. S., Whittlesey, P., Larson, D. E., Maksimovic, M., Livi, R., Berthomier, M., Kasper, J. C., Case, A. W., Stevens, M. L., Bale, S. D., MacDowall, R. J., Pulupa, M. P. (2022), The Radial Evolution of the Solar Wind as Organized by Electron Distribution Parameters, *The Astrophysical Journal, 936*, 53.
334. *** Verscharen, D., Chandran, B. D. G., Boella, E., Halekas, J., Innocenti, M. E., Jagarlamudi, V. K., Micera, A., Pierrard, V., Štverák, Š., Vasko, I. Y., Velli, M., Whittlesey, P. L. (2022), Electron-Driven Instabilities in the Solar Wind, *Frontiers in Astronomy and Space Sciences, 9*, 951628.
333. *** Thaller, S. A., Andersson, L., Schwartz, S. J., Mazelle, C., Fowler, C., Goodrich, K., Newman, D., Halekas, J., Pilinski, M. D., Pollard, M. (2022), Bipolar Electric Field Pulses in the Martian Magnetosheath and Solar Wind; Their Implication and Impact Accessed by System Scale Size, *Journal of Geophysical Research (Space Physics), 127*, e30374.
332. * Jones, N. A., Halekas, J. S., Girazian, Z., Mitchell, D. L., Mazelle, C. (2022), MAVEN observations of H^- ions in the Martian atmosphere, *Journal of Geophysical Research, 127,* e06999.
331. **** Sakakura, K., Seki, K., Sakai, S., Sakata, R., Shinagawa, H., Brain, D. A., McFadden, J. P., Halekas, J. S., DiBraccio, G. A., Jakosky, B. M., Terada, N., Tanaka, T. (2022), Formation Mechanisms of the Molecular Ion Polar Plume and Its Contribution to Ion Escape From Mars, *Journal of Geophysical Research (Space Physics), 127*, e29750.
330. * Henderson, S., Halekas, J., Girazian, Z., Espley, J., and Elrod, M. (2022), Influence of Magnetic Fields on Precipitating Solar Wind Hydrogen at Mars, *Geophysical Research Letters, 49*, e99114.
329. **** DiBraccio, G. A., Romanelli, N., Bowers, C. F., Gruesbeck, J. R., Halekas, J. S., Ruhunusiri, S., Weber, T., Espley, J. R., Xu, S., Luhmann, J. G., Harada, Y., Dubinin, E., Poh, G. K., Brain, D. A., Curry, S. M. (2022), A Statistical Investigation of Factors Influencing the Magnetotail Twist at Mars", *Geophysical Research Letters, 49*, e98007.
328. ** Akbari, H., Newman, D., Fowler, C., Pfaff, R., Andersson, L., Malaspina, D., Schwartz, S., Ergun, R., McFadden, J., Mitchell, D., Halekas, J., Rowland, D. (2022), Micro-Scale Plasma Instabilities in the Interaction Region of the Solar Wind and the Martian Upper Atmosphere, *Journal of Geophysical Research (Space Physics)*, 127, e30591.
327. *** Garnier, P., Jacquey, C., Gendre, X., Génot, V., Mazelle, C., Fang, X., Gruesbeck, J. R., Sánchez-Cano, B., Halekas, J. S. (2022), The Drivers of the Martian Bow Shock Location: A Statistical Analysis of

Mars Atmosphere and Volatile EvolutioN and Mars Express Observations, *Journal of Geophysical Research (Space Physics), 127,* e30147.

326. **** Garnier, P., Jacquey, C., Gendre, X., Génot, V., Mazelle, C., Fang, X., Gruesbeck, J. R. Sánchez-Cano, B., Halekas, J. S. (2022), The Influence of Crustal Magnetic Fields on the Martian Bow Shock Location: A Statistical Analysis of MAVEN and Mars Express Observations, *Journal of Geophysical Research (Space Physics), 127*, e30146.
325. ** Phan, T. D., Verniero, J. L., Larson, D., Lavraud, B., Drake, J. F., Øieroset, M., Eastwood, J. P., Bale, S. D., Livi, R., Halekas, J. S., Whittlesey, P. L., Rahmati, A., Stansby, D., Pulupa, M., MacDowall, R. J., Szabo, P. A., Koval, A., Desai, M., Fuselier, S. A., Velli, M., Hesse, M., Pyakurel, P. S., Maheshwari, K., Kasper, J. C., Stevens, J. M., Case, A. W., Raouafi, N. E. (2022), Parker Solar Probe Observations of Solar Wind Energetic Proton Beams Produced by Magnetic Reconnection in the Near-Sun Heliospheric Current Sheet, *Geophysical Research Letters, 49*, e96986.
324. *** Wurz, P., Fatemi, S., Galli, A., Halekas, J., Harada, Y., Jäggi, N., Jasinski, J., Lammer, H., Lindsay, S., Nishino, M. N., Orlando, T. M., Raines, J. M., Scherf, M., Slavin, J., Vorburger, A., Winslow, R. (2022), Particles and Photons as Drivers for Particle Release from the Surfaces of the Moon and Mercury, *Space Science Reviews, 218*, 10.
323. ** Liuzzo, L., Poppe, A. R., and Halekas, J. S. (2022), A Statistical Study of the Moon's Magnetotail Plasma Environment, Journal of Geophysical Research (Space Physics), 127, e30260.
322. * Girazian, Z., Schneider, N. M., Milby, Z., Fang, X., Halekas, J., Weber, T., Jain, S. K., Gérard, J. -C., Soret, L., Deighan, J., Lee, C. O. (2022), Discrete Aurora at Mars: Dependence on Upstream Solar Wind Conditions, *Journal of Geophysical Research (Space Physics), 127*, e30238.
321. *** Stergiopoulou, K., Andrews, D. J., Edberg, N. J. T., Halekas, J., Lester, M., Sánchez-Cano, B., Dimmock, A. P., Gruesbeck, J. R. (2022), A Two-Spacecraft Study of Mars' Induced Magnetosphere's Response to Upstream Conditions, *Journal of Geophysical Research (Space Physics), 127*, e30227.
320. ** Martinović, M. M., Dordević, A. R., Klein, K. G., Maksimović, M., Issautier, K., Liu, M., Pulupa, M., Bale, S. D., Halekas, J. S., McManus, M. D. (2022), Plasma Parameters From Quasi-Thermal Noise Observed by Parker Solar Probe: A New Model for the Antenna Response, *Journal of Geophysical Research (Space Physics)*, 127, e30182.
319. **** Lotekar, A. B., Vasko, I. Y., Phan, T., Bale, S. D., Bowen, T. A., Halekas, J.. Artemyev, A. V., Khotyaintsev, Yu. V., Mozer, F. S. (2022), Kinetic-scale Current Sheets in Near-Sun Solar Wind: Properties, Scale-dependent Features and Reconnection Onset, *The Astrophysical Journal, 929*, 58.
318. **** Xu, S., Mitchell, D. L., McFadden, J. P., Schneider, N. M., Milby, Z., Jain, S., Weber, T., Brain, D. A., DiBraccio, G. A., Halekas, J., Ruhunusiri, S., Mazelle, C., Lillis, R. J., Johnston, B. (2022), Empirically Determined Auroral Electron Events at Mars—MAVEN Observations, *Geophysical Research Letters, 49*, e97757.
317. ** Mozer, F. S., Bale, S. D., Cattell, C. A., Halekas, J., Vasko, I. Y., Verniero, J. L., Kellogg, P. J. (2022), Core Electron Heating by Triggered Ion Acoustic Waves in the Solar Wind, *The Astrophysical Journal, 927*, L15.
316. *** Larosa, A., Dudok de Wit, T., Krasnoselskikh, V., Bale, S. D., Agapitov, O., Bonnell, J., Froment, C., Goetz, K., Harvey, P., Halekas, J., Kretzschmar, M., MacDowall, R., Malaspina, D. M., Moncuquet, M., Niehof, J., Pulupa, M., Revillet, C. (2022), Langmuir-Slow Extraordinary Mode Magnetic Signature Observations with Parker Solar Probe, *The Astrophysical Journal, 927*, 95.
315. *** Ramstad, R., Brain, D. A., Dong, Y., Halekas, J. S., McFadden, J. P., Espley, J., Jakosky, B. (2022), Energetic Neutral Atoms near Mars: Predicted Distributions Based on MAVEN Measurements, *The Astrophysical Journal, 927*, 11.
314. ** Chen, L.-J., Halekas, J., Wang, S., DiBraccio, G. A., Romanelli, N., Ng, J., Russell, C. T., Schwartz, S. J., Sibeck, D. G., Farrell, W., Pollock, C., Gershman, D., Giles, B., Collado-Vega, Y. M. (2022), Solitary Magnetic Structures Developed From Gyro-Resonance With Solar Wind Ions at Mars and Earth, *Geophysical Research Letters, 49*, e97600.
313. *** Simon Wedlund, C., Volwerk, M., Beth, A., Mazelle, C., Möstl, C., Halekas, J., Gruesbeck, J. R., Rojas-Castillo, D. (2022), A Fast Bow Shock Location Predictor-Estimator From 2D and 3D Analytical Models: Application to Mars and the MAVEN Mission, *Journal of Geophysical Research (Space Physics), 127*, e29942.
312. ** Simon Wedlund, C., Volwerk, M., Mazelle, C., Halekas, J., Rojas-Castillo, D., Espley, J., Möstl, C. (2022), Making Waves: Mirror Mode Structures Around Mars Observed by the MAVEN Spacecraft, *Journal of Geophysical Research (Space Physics), 127*, e29811.

311. * Andreone, G. D., Halekas, J. S., Mitchell, D. L., Gruesbeck, J. R., Mazelle, C. (2022), Electron properties in the Martian space environment, *Journal of Geophysical Research, 127,* e29404.
310. ** Cattell, C., Breneman, A., Dombeck, J., Hanson, E., Johnson, M., Halekas, J., Bale, S. D., Dudok de Wit, T., Goetz, K., Goodrich, K., Malaspina, D., Pulupa, M., Case, T., Kasper, J. C., Larson, D., Stevens, M., Whittlesey, P. (2022), Parker Solar Probe Evidence for the Absence of Whistlers Close to the Sun to Scatter Strahl and to Regulate Heat Flux, *The Astrophysical Journal, 924*, L33.
309. *** Kasper, J. C., Klein, K. G., Lichko, E., Huang, Jia, Chen, C. H. K., Badman, S. T., Bonnell, J., Whittlesey, P. L., Livi, R., Larson, D., Pulupa, M., Rahmati, A., Stansby, D., Korreck, K. E., Stevens, M., Case, A. W., Bale, S. D., Maksimovic, M., Moncuquet, M., Goetz, K., Halekas, J. S., Malaspina, D., Raouafi, N. E., Szabo, A., MacDowall, R., Velli, M., Dudok de Wit, T., Zank, G. P. (2021), Parker Solar Probe Enters the Magnetically Dominated Solar Corona, *Physical Review Letters, 127*, 255101.
308. *** Xu, S., Mitchell, D. L., Ma, Y., Weber, T., Brain, D. A., Halekas, J., Ruhunusiri, S., DiBraccio, G., Mazelle, C. (2021), Global Ambipolar Potentials and Electric Fields at Mars Inferred From MAVEN Observations, *Journal of Geophysical Research (Space Physics), 126*, e29764.
307. *** Bale, S. D., Horbury, T. S., Velli, M., Desai, M. I., Halekas, J. S., McManus, M. D., Panasenco, O., Badman, S. T., Bowen, T. A., Chandran, B. D. G., Drake, J. F., Kasper, J. C., Laker, R., Mallet, A., Matteini, L., Phan, T. D., Raouafi, N. E., Squire, J., Woodham, L. D., Woolley, T. (2021), A Solar Source of Alfvénic Magnetic Field Switchbacks: In Situ Remnants of Magnetic Funnels on Supergranulation Scales, *The Astrophysical Journal, 923*, 174.
306. * Halekas, J. S. and McFadden, J. P. (2021), Using Solar Wind Helium to Probe the Structure and Seasonal Variability of the Martian Hydrogen Corona, *Journal of Geophysical Research (Planets), 126*, e07049.
305. * Chu, F., Girazian, Z., Duru, F., Ramstad, R., Halekas, J., Gurnett, D. A., Cao, X., Kopf, A. J. (2021), The Dayside Ionopause of Mars: Solar Wind Interaction, Pressure Balance, and Comparisons With Venus, *Journal of Geophysical Research (Planets), 126*, e06936.
304. *** Mittelholz, A., Johnson, C. L., Fillingim, M., Joy, S. P., Espley, J., Halekas, J., Smrekar, S., Banerdt, W. B. (2021), Space Weather Observations With InSight, *Geophysical Research Letters, 48*, e95432.
303. ** Berčič, L., Maksimović, M., Halekas, J. S., Landi, S., Owen, C. J., Verscharen, D., Larson, D., Whittlesey, P., Badman, S. T., Bale, S.. D., Case, A. W., Goetz, K., Harvey, P. R., Kasper, J. C., Korreck, K. E., Livi, R., MacDowall, R. J., Malaspina, D. M., Pulupa, M., Stevens, M. L. (2021), Ambipolar Electric Field and Potential in the Solar Wind Estimated from Electron Velocity Distribution Functions, *The Astrophysical Journal, 921*, 83.
302. **** Lillis, R. J., Mitchell, D., Montabone, L., Heavens, N., Harrison, T., Stuurman, C., Guzewich, S., England, S., Withers, P., Chaffin, M., Curry, S., Ao, C., Matousek, S., Barba, N., Woolley, R., Smith, I., Osinski, G. R., Kleinböhl, A., Tamppari, L., Mischna, M., Kass, D., Smith, M., Wolff, M., Kahre, M., Spiga, A.. Forget, F., Cantor, B., Deighan, J., Brecht, A., Bougher, S., Fowler, C. M., Andrews, D., Patzold, M., Peter, K., Tellmann, S., Lester, M., Sánchez-Cano, B., Luhmann, J., Leblanc, F., Halekas, J., Brain, D., Fang, X., Espley, J., Opgenoorth, H., Vaisberg, O., Hinson, D., Asmar, S., Vander Hook, J., Karatekin, O., Barjatya, A., Tripathi, A. (2021), MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration, *The Planetary Science Journal, 2*, 211.
301. *** Fowler, C. M., Hanley, K. G., McFadden, J. P., Chaston, C. C., Bonnell, J. W., Halekas, J. S., Espley, J. R., DiBraccio, G. A., Schwartz, S. J., Mazelle, C., Mitchell, D. L., Xu, S., Lillis, R. J. (2021), MAVEN Observations of Low Frequency Steepened Magnetosonic Waves and Associated Heating of the Martian Nightside Ionosphere, *Journal of Geophysical Research (Space Physics), 126*, e29615.
300. ** Lentz, C. L., Chasapis, A., Qudsi, R. A., Halekas, J., Maruca, B. A., Andersson, L., Baker, D. N. (2021), On the Solar Wind Proton Temperature Anisotropy at Mars' Orbital Location, *Journal of Geophysical Research (Space Physics), 126*, e29438.
299. **** Fargette, N., Lavraud, B., Rouillard, A. P., Réville, V., Dudok De Wit, T., Froment, C., Halekas, J. S., Phan, T. D., Malaspina, D. M., Bale, S. D., Kasper, J. C., Louarn, P., Case, A. W., Korreck, K. E., Larson, D. E., Pulupa, M., Stevens, M. L., Whittlesey, P. L., Berthomier, M. (2021), Characteristic Scales of Magnetic Switchback Patches Near the Sun and Their Possible Association With Solar Supergranulation and Granulation, *The Astrophysical Journal, 919*, 96.
298. ** Burne, S., Bertucci, C., Mazelle, C., Morales, L. F., Meziane, K., Halekas, J., Fowler, C. M., Espley, J., Mitchell, D., Penou, E. (2021), The Structure of the Martian Quasi-Perpendicular Supercritical Shock as Seen by MAVEN, *Journal of Geophysical Research (Space Physics), 126*, e28938.

297. *** Andrés, N., Sahraoui, F., Hadid, L. Z., Huang, S. Y., Romanelli, N., Galtier, S., DiBraccio, G., Halekas, J. (2021), The Evolution of Compressible Solar Wind Turbulence in the Inner Heliosphere: PSP, THEMIS, and MAVEN Observations, *The Astrophysical Journal, 919,* 19.
296. ** Poppe, A. R., Xu, S., Liuzzo, L., Halekas, J. S., and Harada, Y. (2021), ARTEMIS Observations of Lunar Nightside Surface Potentials in the Magnetotail Lobes: Evidence for Micrometeoroid Impact Charging, *Geophysical Research Letters, 48,* e94585.
295. ** Borovsky, J. E., Halekas, J. S., and Whittlesey, P. L. (2021), The Electron Structure of the Solar Wind, *Frontiers in Astronomy and Space Sciences, 8,* 93.
294. *** Grava, C., Hurley, D. M., Feldman, P. D., Retherford, K. D., Greathouse, T. K., Pryor, W. R., Gladstone, G. R., Halekas, J. S., Mandt, K. E., Wyrick, D. Y., Davis, M. W., Egan, A. F., Kaufmann, D. E., Versteeg, M. H., Stern, S. A. (2021), LRO/LAMP observations of the lunar helium exosphere: constraints on thermal accommodation and outgassing rate, *Monthly Notices of the Royal Astronomical Society*, *501*, p. 4438–4451.
293. * Halekas, J. S., Bercic, L., Whittlesey, P., Larson, D. E., Livi, R., Berthomier, M., Kasper, J. C., Case, A. W., Stevens, M. L., Bale, S. D., MacDowall, R. J., Pulupa, M. P. (2021), The sunward electron deficit: A telltale sign of the Sun's electric potential. *The Astrophysical Journal, 916,* 16.
292. * Henderson, S., Halekas, J. S., Lillis, R., Elrod, M. (2021), Precipitating solar wind hydrogen as observed by the MAVEN spacecraft: Distribution as a function of column density, altitude, and solar zenith angle, *Journal of Geophysical Research, 126,* e06725.
291. ** Xu, S., Poppe, A. R., Harada, Y., Halekas, J. S., Chamberlain, P. C. (2021), Lunar photoemission yields inferred from ARTEMIS measurements, *Journal of Geophysical Research, 126*, e2020JE006790.
290. *** Malaspina, D. M., Wilson, L. B. III, Ergun, R. E., Bale, S. B., Bonnell, J. W., Goodrich, K., Goetz, K., Harvey, P. R., MacDowall, R. J., Pulupa, M., Halekas, J., Case, A., Kasper, J. C., Larson, D., Stevens, M., Whittlesey, P. (2021), Electron Bernstein waves and narrowband plasma waves near the electron cyclotron frequency in the near-Sun solar wind. *Astronomy and Astrophysics, 650,* A97.
289. *** Grava, C., Killen, R. M., Benna, M., Berezhnoy, A. A., Halekas, J. S., Leblanc, F., Nishino, M. N., Plainaki, C., Raines, J. M., Sarantos, M., Teolis, B. D., Tucker, O. J., Vervack, R. J., Vorburger, A. (2021), Volatiles and Refractories in Surface-Bounded Exospheres in the Inner Solar System. *Space Science Reviews, 217*, 61.
288. * Kistler, M., Halekas, J., McFadden, J., Mieth, J. Z. D. (2021). Distribution and variability of plasma perturbations observed by ARTEMIS near the Moon in the terrestrial magnetotail. *Advances in Space Research, 68(1)*, p. 259-274.
287. * Halekas, J. S., Whittlesey, P. L., Larson, D. E., McGinnis, D., Bale, S. D., Berthomier, M., Case, A. W., Chandran, B. D. G., Kasper, J. C., Klein, K. G., Korreck, K. E., Livi, R., MacDowall, R. J., Maksimovic, M., Malaspina, D. M., Matteini, L., Pulupa, M. P., Stevens, M. L. (2021). Electron Heat Flux in the Near-Sun Environment. *Astronomy and Astrophysics*, *650*, A15.
286. *** Liu, M., Issautier, K., Meyer-Vernet, N., Moncuquet, M., Maksimovic, M., Halekas, J. S., Huang, J., Griton, L., Bale, S., Bonnell, J. W., Case, A. W., Goetz, K., Harvey, P. R., Kasper, J. C., MacDowall, R. J., Malaspina, D. M., Pulupa, M., Stevens, M. L. (2021). Solar wind energy flux observations in the inner heliosphere: first results from Parker Solar Probe. *Astronomy & Astrophysics, 650*, A14.
285. ** Phan, T. D., Lavraud, B., Halekas, J. S., Øieroset, M., Drake, J. F., Eastwood, J. P., Shay, M. A., Pyakurel, P. S., Bale, S. D., Larson, D., Livi, R., Whittlesey, P. L., Rahmati, A., Pulupa, M., McManus, M. D., Verniero, J. L., Bonnell, J. W., Schwadron, N. A., Stevens, M., Case, A. W., Kasper, J. C., MacDowall, R. J., Szabo, P. A., Koval, A., Korreck, K. E., Dudok de Wit, T., Malaspina, D., Goetz, K., Harvey, P. R. (2021). Prevalence of magnetic reconnection in the near-Sun heliospheric current sheet. *Astronomy & Astrophysics, 650*, A13.
284. **** Fargette, N., Lavraud, B., Rouillard, A., Eastwood, J. P., Bale, S. D., Phan, T., Øieroset, M., Halekas, J. S., Kasper, J., Berthomier, M., Case, A. W., Korreck, K. E., Larson, D. E., Louarn, P., Malaspina, D., Pulupa, M., Stevens, M. L., Whittlesey, P. L., MacDowall, R. J., Goetz, K., Harvey, P. R., Dudok de Wit, T., Bonnell, J. W. (2021). Magnetic increases with central current sheets: observations with Parker Solar Probe. *Astronomy & Astrophysics, 650*, A11.
283. *** Jagarlamudi, V. K., Dudok de Wit, T., Froment, C., Krasnoselskikh, V., Larosa, A., Bercic, L., Agapitov, O., Halekas, J. S., Kretzschmar, M., Malaspina, D., Moncuquet, M., Bale, S. D., Case, A. W., Kasper, J. C., Korreck, K. E., Larson, D. E., Pulupa, M., Stevens, M. L., Whittlesey, P. (2021). Whistler wave occurrence and the interaction with strahl electrons during the first encounter of Parker Solar Probe. *Astronomy & Astrophysics, 650*, A9.

282. *** Cattell, C., Short, B., Breneman, A., Halekas, J., Whittesley, P., Larson, D., Kasper, J. C., Stevens, M., Case, T., Moncuquet, M., Bale, S., Bonnell, J., Dudok de Wit, T., Goetz, K., Harvey, P., MacDowall, R., Malaspina, D., Maksimovic, M., Pulupa, M., Goodrich, K. (2021). Narrowband oblique whistler-mode waves: comparing properties observed by Parker Solar Probe at <0.3 AU and STEREO at 1 AU. *Astronomy & Astrophysics, 650*, A8.
281. *** Liuzzo, L., Poppe, A. R., Halekas, J. S., Simon, S., Cao, X. (2021). Investigating the Moon's Interaction With the Terrestrial Magnetotail Lobe Plasma. *Geophysical Research Letters, 48(9)*, e93566.
280. *** Horaites, K., Andersson, L., Schwartz, S. J., Xu, S., Mitchell, D. L., Mazelle, C., Halekas, J., Gruesbeck, J. (2021). Observations of Energized Electrons in the Martian Magnetosheath. *Journal of Geophysical Research (Space Physics), 126(4)*, e28984.
279. * Chu, F., Halekas, J. S., Cao, X., McFadden, J. P., Bonnell, J. W., Glassmeier, K. -H. (2021). Electrostatic Waves and Electron Heating Observed Over Lunar Crustal Magnetic Anomalies. *Journal of Geophysical Research (Space Physics), 126(4)*, e28880.
278. ** Cattell, C., Breneman, A., Dombeck, J., Short, B., Wygant, J., Halekas, J., Case, T., Kasper, J. C., Larson, D., Stevens, M., Whittesley, P., Bale, S. D., Dudok de Wit, T., Goodrich, K., MacDowall, R., Moncuquet, M., Malaspina, D., Pulupa, M. (2021). Parker Solar Probe Evidence for Scattering of Electrons in the Young Solar Wind by Narrowband Whistler-mode Waves. *The Astrophysical Journal Letters, 911(2)*, L29.
277. *** Xu, S., Schwartz, S. J., Mitchell, D.L., Horaites, K., Andersson, L., Halekas, J., Mazelle, C., Gruesbeck, J. R. (2021). Cross Shock Electrostatic Potentials at Mars Inferred From MAVEN Measurements. *Journal of Geophysical Research (Space Physics), 126(3)*, e29064.
276. *** Goodrich, K. A., Bonnell, J. W., Curry, S., Livi, R., Whittlesey, P.; Mozer, F., Malaspina, D., Halekas, J., McManus, M., Bale, S., Bowen, T., Case, A., Dudok de Wit, T., Goetz, K., Harvey, P., Kasper, J., Larson, D., MacDowall, R., Pulupa, M., Stevens, M. (2021), Evidence of Subproton Scale Magnetic Holes in the Venusian Magnetosheath. *Geophysical Research Letters, 48(5)*, e90329.
275. * Girazian, Z., Halekas, J. S. (2021). Precipitating Solar Wind Hydrogen at Mars: Improved Calculations of the Backscatter and Albedo With MAVEN Observations. *Journal of Geophysical Research (Planets), 126(2)*, e06666.
274. *** Romeo, O. M., Romanelli, N., Espley, J. R., Mazelle, C., DiBraccio, G. A., Gruesbeck, J. R., Halekas, J. S. (2021). Variability of Upstream Proton Cyclotron Wave Properties and Occurrence at Mars Observed by MAVEN, *Journal of Geophysical Research (Space Physics)*, *126(2)*, e28616.
273. *** Grava, C., Hurley, D. M., Feldman, P. D., Retherford, K. D., Greathouse, T. K., Pryor, W. R., Gladstone, G. R., Halekas, J. S., Mandt, K. E., Wyrick, D. Y., Davis, M. W., Egan, A. F., Kaufmann, D. E., Versteeg, M. H., Stern, S. A. (2021). LRO/LAMP observations of the lunar helium exosphere: constraints on thermal accommodation and outgassing rate. *Monthly Notices of the Royal Astronomical Society*, *501*(3), 4438-4451.
272. **** Mozer, F. S., Bonnell, J. W., Halekas, J. S., Rahmati, A., Schum, G., Vasko, I. V. (2021). Whistlers in the Solar Vicinity That Are Spiky in Time and Frequency. *The Astrophysical Journal*, *908*(1), 26.
271. *** Bowen, T.A., Bale, S.D., Bandyopadhyay, R., Bonnell, J.W., Case, A., Chasapis, A., Chen, C.H.K., Curry, S., Dudok de Wit, T., Goetz, K., Goodrich, K., Gruesbeck, J., Halekas, J., Harvey, P.R., Howes, G.G., Kasper, J.C., Korreck, K., Larson, D., Livi, R., MacDowall, R.J., Malaspina, D.M., Mallet, A., McManus, M.D., Page, B., Pulupa, M., Raouafi, N., Stevens, M.L., Whittlesey, P. (2021). Kinetic-Scale Turbulence in the Venusian Magnetosheath. *Geophysical Research Letters*, *48*(2), e90783.
270. ** Harada, Y., Halekas, J.S., Xu, S., DiBraccio, G.A., Ruhunusiri, S., Hara, T., Mcfadden, J.P., Espley, J.R., Mitchell, D.L., Mazelle, C. (2020). Ion Jets Within Current Sheets in the Martian Magnetosphere. *Journal of Geophysical Research (Space Physics)*, *125*(12), e28576.
269. * Luppen, Z.A., Girazian, Z., Morgan, D.D., Kopf, A.J., Chu, F., Halekas, J.S., Gurnett, D.A. (2020). Prolonged Lifetime of the Transient Ionized Layer in the Martian Atmosphere Caused by Comet Siding Spring. *Journal of Geophysical Research (Planets)*, *125*(11), e06607.
268. *** Boscoboinik, G., Bertucci, C., Gomez, D., Morales, L., Mazelle, C., Halekas, J., Gruesbeck, J., Mitchell, D., Jakosky, B., Penou, E. (2020). The Magnetic Structure of the Subsolar MPB Current Layer From MAVEN Observations: Implications for the Hall Electric Force. *Geophysical Research Letters*, *47*(21), e89230.
267. ** Romanelli, N., DiBraccio, G., Halekas, J., Dubinin, E., Gruesbeck, J., Espley, J., Poh, G., Ma, Y., Luhmann, J.G. (2020). Variability of the Solar Wind Flow Asymmetry in the Martian Magnetosheath Observed by MAVEN. *Geophysical Research Letters*, *47*(22), e90793.

266. *** Martinez, A., Modolo, R., Leblanc, F., Chaufray, J.Y., Witasse, O., Romanelli, N., Dong, Y., Hara, T., Halekas, J., Lillis, R., McFadden, J., Eparvier, F., Leclercq, L., Luhmann, J., Curry, S., Jakosky, B. (2020). Influence of the Solar Wind Dynamic Pressure on the Ion Precipitation: MAVEN Observations and Simulation Results. *Journal of Geophysical Research (Space Physics)*, *125*(10), e28183.
265. *** Stergiopoulou, K., Andrews, D.J., Edberg, N.J.T., Halekas, J., Kopf, A., Lester, M., Opgenoorth, H.J., Sanchez-Cano, B. (2020). Mars Express Observations of Cold Plasma Structures in the Martian Magnetotail. *Journal of Geophysical Research (Space Physics)*, *125*(10), e28056.
264. * Cao, X., Halekas, J. S., Chu, F., Kistler, M., Poppe, A. R., Glassmeier, K.-H. (2020). Plasma Convection in the Terrestrial Magnetotail Lobes Measured Near the Moon's Orbit. *Geophysical Research Letters*, *47*(20), e90217.
263. *** Malaspina, D.M., Goodrich, K., Livi, R., Halekas, J., McManus, M., Curry, S., Bale, S.D., Bonnell, J.W., de Wit, T. D., Goetz, K., Harvey, P.R., MacDowall, R.J., Pulupa, M., Case, A.W., Kasper, J.C., Korreck, K.E., Larson, D., Stevens, M.L., Whittlesey, P. (2020). Plasma Double Layers at the Boundary Between Venus and the Solar Wind. *Geophysical Research Letters*, *47*(20), e90115.
262. *** Andres, Nahuel, Romanelli, N., Hadid, L. Z., Sahraoui, F., DiBraccio, G., Halekas, J. (2020). Solar Wind Turbulence Around Mars: Relation between the Energy Cascade Rate and the Proton Cyclotron Waves Activity. *The Astrophysical Journal*, *902*(2), 134.
261. *** Weber, T., Brain, D., Xu, S., Mitchell, D., Espley, J., Halekas, J., Mazelle, C., Lillis, R., DiBraccio, G., Jakosky, B. (2020). The Influence of Interplanetary Magnetic Field Direction on Martian Crustal Magnetic Field Topology. *Geophysical Research Letters*, *47*(19), e87757.
260. *** Brain, D.A., Weber, T., Xu, S., Mitchell, D.L., Lillis, R.J., Halekas, J.S., Espley, J., Jakosky, B.M. (2020). Variations in Nightside Magnetic Field Topology at Mars. *Geophysical Research Letters*, *47*(19), e88921.
259. *** Sanchez-Cano, Beatriz, Narvaez, C., Lester, M., Mendillo, M., Mayyasi, M., Holmstrom, M., Halekas, J., Andersson, L., Fowler, C. M., McFadden, J. P., Durward, S. (2020). Mars' Ionopause: A Matter of Pressures. *Journal of Geophysical Research (Space Physics)*, *125*(9), e28145.
258. * Ruhunusiri, S., Howes, G.G., Halekas, J.S. (2020). Plasma Turbulence at Comet 67P/Churyumov-Gerasimenko: Rosetta Observations. *Journal of Geophysical Research (Space Physics)*, *125*(9), e28100.
257. * Halekas, J.S., Ruhunusiri, S., Vaisberg, O.L., Harada, Y., Espley, J.R., Mitchell, D.L., Mazelle, C., Romanelli, N., DiBraccio, G.A., Brain, D.A. (2020). Properties of Plasma Waves Observed Upstream From Mars. *Journal of Geophysical Research (Space Physics)*, *125*(9), e28221.
256. *** Collinson, G., Sibeck, D., Omidi, N., Frahm, R., Zhang, T., Mitchell, D., Halekas, J., Espley, J., Futaana, Y., Jakosky, B. (2020). Foreshock Cavities at Venus and Mars. *Journal of Geophysical Research (Space Physics)*, *125*(8), e28023.
255. *** Bowen, T. A., Mallet, A., Bale, S. D., Bonnell, J.W., Case, A. W., Chandran, Benjamin D.G., Chasapis, A., Chen, Christopher H.K., Duan, D., Dudok de Wit, Thierry, Goetz, K., Halekas, J. S., Harvey, P. R., Kasper, J.C., Korreck, K. E., Larson, D., Livi, R., MacDowall, R. J., Malaspina, D. M., McManus, M. D., Pulupa, M., Stevens, M., Whittlesey, P. (2020). Constraining Ion-Scale Heating and Spectral Energy Transfer in Observations of Plasma Turbulence. *Physical Review Letters*, *125*(2), 025102.
254. *** Xu, S., Poppe, A. R., Halekas, J. S., Harada, Y. (2020). Reflected Protons in the Lunar Wake and Their Effects on Wake Potentials. *Journal of Geophysical Research (Space Physics)*, *125*(7), e28154.
253. * Madanian, H., Schwartz, S. J., Halekas, J. S., Wilson, L. B. (2020). Nonstationary Quasiperpendicular Shock and Ion Reflection at Mars. *Geophysical Research Letters*, *47*(11), e88309.
252. * Cao, X., Halekas, J., Poppe, A., Chu, F., Glassmeier, K.-H. (2020). The Acceleration of Lunar Ions by Magnetic Forces in the Terrestrial Magnetotail Lobes. *Journal of Geophysical Research (Space Physics)*, *125*(6), e27829.
251. * Duru, F., Baker, N., De Boer, M., Chamberlain, A., Verchimak, R., Morgan, D.D., Chu, F., Girazian, Z., Gurnett, D.A., Halekas, J., Kopf, A. (2020). Martian Ionopause Boundary: Coincidence With Photoelectron Boundary and Response to Internal and External Drivers. *Journal of Geophysical Research (Space Physics)*, *125*(5), e27409.
250. *** Ramstad, R., Brain, D. A., Dong, Y., Espley, J., Halekas, J., Jakosky, B. (2020). The global current systems of the Martian induced magnetosphere. *Nature Astronomy*, *4*, 979-985.
249. ** Lavraud, B., Fargette, N., Reville, V., Szabo, A., Huang, J., Rouillard, A.P., Viall, N., Phan, T.D., Kasper, J.C., Bale, S.D., Berthomier, M., Bonnell, J.W., Case, A.W., Dudok de Wit, T., Eastwood, J.P., Genot, V., Goetz, K., Griton, L.S., Halekas, J.S., Harvey, P., Kieokaew, R., Klein, K.G., Korreck, K.E., Kouloumvakos, A., Larson, D.E., Lavarra, M., Livi, R., Louarn, P., MacDowall, R.J., Maksimovic, M.,

Malaspina, D., Nieves-Chinchilla, T., Pinto, R.F., Poirier, N., Pulupa, M., Raouafi, N.E., Stevens, M.L., Toledo-Redondo, S., Whittlesey, P.L. (2020). The Heliospheric Current Sheet and Plasma Sheet during Parker Solar Probe's First Orbit. *The Astrophysical Journal*, *894*(2), L19.

248. * Girazian, Z., Luppen, Z., Morgan, D.D., Chu, F., Montabone, L., Thiemann, E.M.B., Gurnett, D.A., Halekas, J., Kopf, A.J., Nemec, F. (2020). Variations in the Ionospheric Peak Altitude at Mars in Response to Dust Storms: 13 Years of Observations From the Mars Express Radar Sounder. *Journal of Geophysical Research (Planets)*, *125*(5), e06092.
247. *** Sarris, T. E., Talaat, E. R., Palmroth, M., Dandouras, I., Armandillo, E., Kervalishvili, G., Buchert, S., Tourgaidis, S., Malaspina, D. M., Jaynes, A. N., Paschalidis, N., Sample, J., Halekas, J., Doornbos, E., Lappas, V., Moretto Jorgensen, Therese, Stolle, C., Clilverd, M., Wu, Q., Sandberg, I., Pirnaris, P., Aikio, A. (2020). Daedalus: a low-flying spacecraft for in situ exploration of the lower thermosphere-ionosphere. *Geoscientific Instrumentation, Methods and Data Systems*, *9*(1), 153-191.
246. *** Xu, S., Mitchell, D. L., Weber, T., Brain, D. A., Luhmann, J. G., Dong, C., Curry, S. M., Ma, Y., DiBraccio, G. A., Halekas, J., Dong, Y., Mazelle, C. (2020). Characterizing Mars's Magnetotail Topology With Respect to the Upstream Interplanetary Magnetic Fields. *Journal of Geophysical Research (Space Physics)*, *125*(3), e27755.
245. ** Maksimovic, M., Bale, S.D., Bercic, L., Bonnell, J.W., Case, A.W., Wit, T. D. d., Goetz, K., Halekas, J.S., Harvey, P.R., Issautier, K., Kasper, J.C., Korreck, K.E., Jagarlamudi, V. K., Lahmiti, N., Larson, D.E., Lecacheux, A., Livi, R., MacDowall, R.J., Malaspina, D.M., Martinovic, M.M., Meyer-Vernet, N., Moncuquet, M., Pulupa, M., Salem, C., Stevens, M.L., Stverak, S., Velli, M., Whittlesey, P.L. (2020). Anticorrelation between the Bulk Speed and the Electron Temperature in the Pristine Solar Wind: First Results from the Parker Solar Probe and Comparison with Helios. *The Astrophysical Journal*, *246*(2), 62.
244. * Halekas, J.S., Whittlesey, P., Larson, D.E., McGinnis, D., Maksimovic, M., Berthomier, M., Kasper, J.C., Case, A.W., Korreck, K.E., Stevens, M.L., Klein, K.G., Bale, S.D., MacDowall, R.J., Pulupa, M.P., Malaspina, D.M., Goetz, K., Harvey, P.R. (2020). Electrons in the Young Solar Wind: First Results from the Parker Solar Probe. *The Astrophysical Journal*, *246*(2), 22.
243. ** Malaspina, D. M., Halekas, J., Bercic, L., Larson, D., Whittlesey, P., Bale, S. D., Bonnell, J. W., Dudok de Wit, Thierry, Ergun, R. E., Howes, G., Goetz, K., Goodrich, K., Harvey, P. R., MacDowall, R. J., Pulupa, M., Case, A. W., Kasper, J. C., Korreck, K. E., Livi, R., Stevens, M. L. (2020). Plasma Waves near the Electron Cyclotron Frequency in the Near-Sun Solar Wind. *The Astrophysical Journal*, *246*(2), 21.
242. **** Rouillard, A. P., Kouloumvakos, A., Vourlidas, A., Kasper, J., Bale, S., Raouafi, N.-E., Lavraud, B., Howard, R. A., Stenborg, G., Stevens, M., Poirier, N., Davies, J. A., Hess, P., Higginson, A. K., Lavarra, M., Viall, N. M., Korreck, K., Pinto, R. F., Griton, L., Reville, V., Louarn, P., Wu, Y., Dalmasse, K., Genot, V., Case, A. W., Whittlesey, P., Larson, D., Halekas, J. S., Livi, R., Goetz, K., Harvey, P. R., MacDowall, R. J., Malaspina, D., Pulupa, M., Bonnell, J., de Witt, T. D., Penou, E. (2020). Relating Streamer Flows to Density and Magnetic Structures at the Parker Solar Probe. *The Astrophysical Journal*, *246*(2), 37.
241. * Howard, S.K., Halekas, J.S., Farrell, W.M., McFadden, J.P., Glassmeier, K. -H. (2020). Solar Wind and Interplanetary Magnetic Field Influence on Ultralow Frequency Waves and Reflected Ions Near the Moon. *Journal of Geophysical Research (Space Physics)*, *125*(2), e27209.
240. * Whittlesey, P. L., Larson, D. E., Kasper, J. C., Halekas, J., Abatcha, M., Abiad, R., Berthomier, M., Case, A.W., Chen, J., Curtis, D. W., Dalton, G., Klein, K. G., Korreck, K. E., Livi, R., Ludlam, M., Marckwordt, M., Rahmati, A., Robinson, M., Slagle, A., Stevens, M.L., Tiu, C., Verniero, J.L. (2020). The Solar Probe ANalyzers-Electrons on the Parker Solar Probe. *The Astrophysical Journal*, *246*(2), 74.
239. * Madanian, H., Halekas, J.S., Mazelle, C.X., Omidi, N., Espley, J.R., Mitchell, D.L., McFadden, J.P. (2020). Magnetic Holes Upstream of the Martian Bow Shock: MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *125*(1), e27198.
238. *** Kasper, J.C., Bale, S.D., Belcher, J.W., Berthomier, M., Case, A.W., Chandran, B.D.G., Curtis, D.W., Gallagher, D., Gary, S.P., Golub, L., Halekas, J.S., Ho, G.C., Horbury, T.S., Hu, Q., Huang, J., Klein, K.G., Korreck, K.E., Larson, D.E., Livi, R., Maruca, B., Lavraud, B., Louarn, P., Maksimovic, M., Martinovic, M., McGinnis, D., Pogorelov, N.V., Richardson, J.D., Skoug, R.M., Steinberg, J.T., Stevens, M.L., Szabo, A., Velli, M., Whittlesey, P.L., Wright, K.H., Zank, G.P., MacDowall, R.J., McComas, D.J., McNutt, R.L., Pulupa, M., Raouafi, N.E., Schwadron, N.A. (2019). Alfvenic velocity spikes and rotational flows in the near-Sun solar wind. *Nature*, *576*, 228-231.
237. **** Dubinin, E., Fraenz, M., Patzold, M., Woch, J., McFadden, J., Halekas, J.S., Connerney, J.E.P.,

Jakosky, B.M., Eparvier, F., Vaisberg, O., Zelenyi, L. (2019). Expansion and Shrinking of the Martian Topside Ionosphere. *Journal of Geophysical Research (Space Physics)*, *124*(11), 9725-9738.

236. *** Ma, Y.J., Dong, C.F., Toth, G., van der Holst, B., Nagy, A.F., Russell, C.T., Bougher, S., Fang, X., Halekas, J.S., Espley, J.R., Mahaffy, P.R., Benna, M., McFadden, J., Jakosky, B.M. (2019). Importance of Ambipolar Electric Field in Driving Ion Loss From Mars: Results From a Multifluid MHD Model With the Electron Pressure Equation Included. *Journal of Geophysical Research (Space Physics)*, *124*(11), 9040-9057.
235. *** Harada, Y., Ruhunusiri, S., Halekas, J.S., Espley, J., DiBraccio, G.A., Mcfadden, J.P., Mitchell, D.L., Mazelle, C., Collinson, G., Brain, D.A., Hara, T., Nose, M., Oimatsu, S., Yamamoto, K., Jakosky, B.M. (2019). Locally Generated ULF Waves in the Martian Magnetosphere: MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *124*(11), 8707-8726.
234. ** Holmberg, M.K.G., Andre, N., Garnier, P., Modolo, R., Andersson, L., Halekas, J., Mazelle, C., Steckiewicz, M., Genot, V., Fedorov, A., Barabash, S., Mitchell, D.L. (2019). MAVEN and MEX Multi-instrument Study of the Dayside of the Martian Induced Magnetospheric Structure Revealed by Pressure Analyses. *Journal of Geophysical Research (Space Physics)*, *124*(11), 8564-8589.
233. *** Romanelli, N., DiBraccio, G., Modolo, R., Leblanc, F., Espley, J., Gruesbeck, J., Halekas, J., Mcfadden, J., Jakosky, B. (2019). Recovery Timescales of the Dayside Martian Magnetosphere to IMF Variability. *Geophysical Research Letters*, *46*(20), 10,977-10,986.
232. * McGinnis, D., Halekas, J., Whittlesey, P., Larson, D., Kasper, J. (2019). Correcting Parker Solar Probe Electron Measurements for Spacecraft Magnetic and Electric Fields. *Journal of Geophysical Research (Space Physics)*, *124*(9), 7369-7384.
231. * Halekas, J.S., Ruhunusiri, S., McFadden, J.P., Espley, J.R., DiBraccio, G.A. (2019). Ion Composition Boundary Layer Instabilities at Mars. *Geophysical Research Letters*, *46*(10303), 10,303-10,312.
230. * Chu, F., Girazian, Z., Gurnett, D.A., Morgan, D.D., Halekas, J., Kopf, A.J., Thiemann, E.M.B., Duru, F. (2019). The Effects of Crustal Magnetic Fields and Solar EUV Flux on Ionopause Formation at Mars. *Geophysical Research Letters*, *46*(10257), 10,257-10,266.
229. * Girazian, Z., Halekas, J., Morgan, D.D., Kopf, A.J., Gurnett, D.A., Chu, F. (2019). The Effects of Solar Wind Dynamic Pressure on the Structure of the Topside Ionosphere of Mars. *Geophysical Research Letters*, *46*(15), 8652-8662.
228. ** Fowler, C.M., Halekas, J., Schwartz, S., Goodrich, K.A., Gruesbeck, J.R., Benna, M. (2019). The Modulation of Solar Wind Hydrogen Deposition in the Martian Atmosphere by Foreshock Phenomena. *Journal of Geophysical Research (Space Physics)*, *124*(8), 7086-7097.
227. *** Martinez, A., Leblanc, F., Chaufray, J.Y., Modolo, R., Witasse, O., Dong, Y., Hara, T., Halekas, J., Lillis, R., McFadden, J., Eparvier, F., Leclercq, L., Luhmann, J., Curry, S., Titov, D., Jakosky, B. (2019). Influence of Extreme Ultraviolet Irradiance Variations on the Precipitating Ion Flux From MAVEN Observations. *Geophysical Research Letters*, *46*(13), 7761-7768.
226. *** Inui, S., Seki, K., Sakai, S., Brain, D.A., Hara, T., McFadden, J.P., Halekas, J.S., Mitchell, D.L., DiBraccio, G.A., Jakosky, B.M. (2019). Statistical Study of Heavy Ion Outflows From Mars Observed in the Martian-Induced Magnetotail by MAVEN. *Journal of Geophysical Research (Space Physics)*, *124*(7), 5482-5497.
225. **** Dumbovic, Mateja, Guo, J., Temmer, M., Mays, M. L., Veronig, A., Heinemann, S. G., Dissauer, K., Hofmeister, S., Halekas, J., Mostl, Christian, Amerstorfer, T., Hinterreiter, Jurgen, Banjac, Savsa, Herbst, K., Wang, Y., Holzknecht, L., Leitner, M., Wimmer─Schweingruber, Robert F. (2019). Unusual Plasma and Particle Signatures at Mars and STEREO-A Related to CME─CME Interaction. *Astrophysical Journal*, *880*(1), 18.
224. *** Crismani, M.M.J., Deighan, J., Schneider, N.M., Plane, J.M.C., Withers, P., Halekas, J., Chaffin, M., Jain, S. (2019). Localized Ionization Hypothesis for Transient Ionospheric Layers. *Journal of Geophysical Research (Space Physics)*, *124*(6), 4870-4880.
223. *** Dong, Y., Fang, X., Brain, D.A., Hurley, D.M., Halekas, J.S., Espley, J.R., Ramstad, R., Ruhunusiri, S., Jakosky, B.M. (2019). Magnetic Field in the Martian Magnetosheath and the Application as an IMF Clock Angle Proxy. *Journal of Geophysical Research (Space Physics)*, *124*(6), 4295-4313.
222. **** Grigorenko, E.E., Zelenyi, L.M., DiBraccio, G., Ermakov, V.N., Shuvalov, S.D., Malova, H.V., Popov, V.Y., Halekas, J.S., Mitchell, D.L., Dubinin, E. (2019). Thin Current Sheets of Sub-ion Scales observed by MAVEN in the Martian Magnetotail. *Geophysical Research Letters*, *46*(12), 6214-6222.
221. *** Xu, S., Poppe, A. R., Halekas, J. S., Mitchell, D. L., McFadden, J. P., Harada, Y. (2019). Mapping the Lunar Wake Potential Structure With ARTEMIS Data. *Journal of Geophysical Research (Space Physics)*,

124(5), 3360-3377.

220. * Duru, F., Brain, B., Gurnett, D.A., Halekas, J., Morgan, D.D., Wilkinson, C.J. (2019). Electron Density Profiles in the Upper Ionosphere of Mars From 11 Years of MARSIS Data: Variability Due to Seasons, Solar Cycle, and Crustal Magnetic Fields. *Journal of Geophysical Research (Space Physics)*, *124*(4), 3057-3066.
219. *** Fowler, C.M., Lee, C.O., Xu, S., Mitchell, D.L., Lillis, R., Weber, T., Halekas, J., Andersson, L., Espley, J., Ergun, R.E., Mazelle, C., Luhmann, J. (2019). The Penetration of Draped Magnetic Field Into the Martian Upper Ionosphere and Correlations With Upstream Solar Wind Dynamic Pressure. *Journal of Geophysical Research (Space Physics)*, *124*(4), 3021-3035.
218. **** Weber, T., Brain, D., Mitchell, D., Xu, S., Espley, J., Halekas, J., Lillis, R., Jakosky, B. (2019). The Influence of Solar Wind Pressure on Martian Crustal Magnetic Field Topology. *Geophysical Research Letters*, *46*(5), 2347-2354.
217. *** Soobiah, Y.I.J., Espley, J. R., Connerney, J.E.P., Gruesbeck, J. R., DiBraccio, G. A., Halekas, J., Andersson, L., Fowler, C. M., Lillis, R. J., Mitchell, D. L., Mazelle, C., Harada, Y., Hara, T., Collinson, G., Brain, D., Xu, S., Curry, S. M., Mcfadden, J. P., Benna, M., Jakosky, B. M. (2019). MAVEN Case Studies of Plasma Dynamics in Low-Altitude Crustal Magnetic Field at Mars 1: Dayside Ion Spikes Associated With Radial Crustal Magnetic Fields. *Journal of Geophysical Research (Space Physics)*, *124*(2), 1239-1261.
216. **** Chai, L., Wan, W., Wei, Y., Zhang, T., Exner, W., Fraenz, M., Dubinin, E., Feyerabend, M., Motschmann, U., Ma, Y., Halekas, J.S., Li, Y., Rong, Z., Zhong, J. (2019). The Induced Global Looping Magnetic Field on Mars. *Astrophysical Journal Letters*, *871*(2), L27.
215. *** Angelopoulos, V., Cruce, P., Drozdov, A., Grimes, E.W., Hatzigeorgiu, N., King, D.A., Larson, D., Lewis, J.W., McTiernan, J.M., Roberts, D.A., Russell, C.L., Hori, T., Kasahara, Y., Kumamoto, A., Matsuoka, A., Miyashita, Y., Miyoshi, Y., Shinohara, I., Teramoto, M., Faden, J.B., Halford, A.J., McCarthy, M., Millan, R.M., Sample, J.G., Smith, D.M., Woodger, L.A., Masson, A., Narock, A.A., Asamura, K., Chang, T.F., Chiang, C. -Y., Kazama, Y., Keika, K., Matsuda, S., Segawa, T., Seki, K., Shoji, M., Tam, S.W.Y., Umemura, N., Wang, B. -J., Wang, S. -Y., Redmon, R., Rodriguez, J.V., Singer, H.J., Vandegriff, J., Abe, S., Nose, M., Shinbori, A., Tanaka, Y. -M., UeNo, S., Andersson, L., Dunn, P., Fowler, C., Halekas, J.S., Hara, T., Harada, Y., Lee, C.O., Lillis, R., Mitchell, D.L., Argall, M.R., Bromund, K., Burch, J.L., Cohen, I.J., Galloy, M., Giles, B., Jaynes, A.N., Le Contel, O., Oka, M., Phan, T.D., Walsh, B.M., Westlake, J., Wilder, F.D., Bale, S.D., Livi, R., Pulupa, M., Whittlesey, P., DeWolfe, A., Harter, B., Lucas, E., Auster, U., Bonnell, J.W., Cully, C.M., Donovan, E., Ergun, R.E., Frey, H.U., Jackel, B., Keiling, A., Korth, H., McFadden, J.P., Nishimura, Y., Plaschke, F., Robert, P., Turner, D.L., Weygand, J.M., Candey, R.M., Johnson, R.C., Kovalick, T., Liu, M.H., McGuire, R.E., Breneman, A., Kersten, K., Schroeder, P. (2019). The Space Physics Environment Data Analysis System (SPEDAS). *Space Science Reviews*, *215*(1), 9.
214. *** Martinez, A., Leblanc, F., Chaufray, J.Y., Modolo, R., Romanelli, N., Curry, S., Luhmann, J., Lillis, R., Hara, T., McFadden, J., Halekas, J., Eparvier, F., Larson, D., Connerney, J., Ma, Y.J., Holmstrom, M., Witasse, O., Jakosky, B. (2019). Variability of Precipitating Ion Fluxes During the September 2017 Event at Mars. *Journal of Geophysical Research (Space Physics)*, *124*(1), 420-432.
213. ** Jakosky, B.M., Brain, D., Chaffin, M., Curry, S., Deighan, J., Grebowsky, J., Halekas, J., Leblanc, F., Lillis, R., Luhmann, J.G., others (2018). Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time. *Icarus*, *315*, 146-157.
212. * Ruhunusiri, S., Halekas, J.S., Espley, J.R., Eparvier, F., Brain, D., Mazelle, C., Harada, Y., DiBraccio, G.A., Dong, Y., Ma, Y., Thiemann, E.M.B., Mitchell, D.L., Jakosky, B.M. (2018). An Artificial Neural Network for Inferring Solar Wind Proxies at Mars. *Geophysical Research Letters*, *45*, 10,855-10,865.
211. *** Farrell, W.M., Halekas, J.S., Fatemi, S., Poppe,A.R., Hartzell, C., Marshall, J.R., Stubbs,T.J., Zimmerman, M.I., Zheng, Y. (2018). Anticipated electrical environment at Phobos: Nominal and solar storm conditions. *Advances in Space Research*, *62*, 2199-2212.
210. **** Hara, T., Luhmann, J. G., Leblanc, Francois, Curry, S. M., Halekas, J. S., Seki, K., Brain, D. A., Harada, Y., Mcfadden, J. P., DiBraccio, G. A., Soobiah, Yasir I.J., Mitchell, D. L., Xu, S., Mazelle, C., Jakosky, B. M. (2018). Evidence for Crustal Magnetic Field Control of Ions Precipitating Into the Upper Atmosphere of Mars. *Journal of Geophysical Research (Space Physics)*, *123*, 8572-8586.
209. **** Dubinin, E., Fraenz, M., Patzold, M., McFadden, J., Halekas, J.S., Connerney, J.E.P., Jakosky,B.M., Vaisberg, O., Zelenyi, L. (2018). Martian ionosphere observed by MAVEN. 3. Influence of solar wind and IMF on upper ionosphere. *Planetary and Space Science*, *160*, 56-65.

208. * Halekas, J.S., McFadden, J.P., Brain, D.A., Luhmann,J.G., DiBraccio, G.A., Connerney, J.E.P., Mitchell, D.L., Jakosky, B.M. (2018). Structure and variability of the Martian ion composition boundary layer. *Journal of Geophysical Research (Space Physics)*, *123*, 8439-8458.
207. * Halekas, J.S., Poppe, A.R., Harada, Y., Bonnell,J.W., Ergun, R.E., McFadden, J.P. (2018). A tenuous lunar ionosphere in the geomagnetic tail. *Geophysical Research Letters*, *45*, 9450-9459.
206. *** Lee, C.O., Jakosky, B.M., Luhmann, J.G., Brain,D.A., Mays, M.L., Hassler, D.M., Holmstrom, M., Larson, D.E., Mitchell, D.L., Mazelle, C., Halekas, J.S. (2018). Observations and Impacts of the 10 September 2017 Solar Events at Mars: An Overview and Synthesis of the Initial Results. *Geophysical Research Letters*, *45*, 8871-8885.
205. *** Collinson, G., Wilson, L. B., Omidi, N., Sibeck, D., Espley, J., Fowler, C. M., Mitchell, D., Grebowsky, J., Mazelle, C., Ruhunusiri, S., Halekas, J., Frahm, R., Zhang, T., Futaana, Y., Jakosky, B. (2018). Solar Wind Induced Waves in the Skies of Mars: Ionospheric Compression, Energization, and Escape Resulting From the Impact of Ultralow Frequency Magnetosonic Waves Generated Upstream of the Martian Bow Shock. *Journal of Geophysical Research (Space Physics)*, *123*, 7241-7256.
204. **** Schneider, N.M., Jain, S.K., Deighan, J., Nasr, C.R., Brain, D.A., Larson, D., Lillis, R., Rahmati, A., Halekas, J.S., Lee, C.O., Chaffin, M.S., Stiepen, A., Crismani, M., Evans, J.S., Stevens, M.H., Lo, D.Y., McClintock, W.E., Stewart, A.I.F., Yelle, R.V., Clarke, J.T., Holsclaw, G.M., Lefevre, F., Montmessin, F., Jakosky, B.M. (2018). Global Aurora on Mars During the September 2017 Space Weather Event. *Geophysical Research Letters*, *45*, 7391-7398.
203. * Harada, Y., Gurnett, D.A., Kopf, A.J., Halekas, J.S., Ruhunusiri, S., DiBraccio, G.A., Espley, J., Brain, D.A. (2018). MARSIS Observations of the Martian Nightside Ionosphere During the September 2017 Solar Event. *Geophysical Research Letters*, *45*, 7960-7967.
202. *** Romanelli, N., Modolo, R., Leblanc, F., Chaufray, J. -Y., Martinez, A., Ma, Y., Lee, C.O., Luhmann, J.G., Halekas, J., Brain, D., DiBraccio, G., Espley, J., Mcfadden, J., Jakosky, B., Holmstrom, M. (2018). Responses of the Martian Magnetosphere to an Interplanetary Coronal Mass Ejection: MAVEN Observations and LatHyS Results. *Geophysical Research Letters*, *45*, 7891-7900.
201. **** Dong, C., Bougher, S. W., Ma, Y., Lee, Y., Toth, G., Nagy, A. F., Fang, X., Luhmann, J., Liemohn, M. W., Halekas, J. S., Tenishev, V., Pawlowski, D. J., Combi, M. R. (2018). Solar Wind Interaction With the Martian Upper Atmosphere: Roles of the Cold Thermosphere and Hot Oxygen Corona. *Journal of Geophysical Research (Space Physics)*, *123*, 6639-6654.
200. *** Ma, Y., Fang, X., Halekas, J. S., Xu, S., Russell, C. T., Luhmann, J. G., Nagy, A. F., Toth, G., Lee, C. O., Dong, C., Espley, J. R., McFadden, J. P., Mitchell, D. L., Jakosky, B. M. (2018). The Impact and Solar Wind Proxy of the 2017 September ICME Event at Mars. *Geophysical Research Letters*, *45*, 7248-7256.
199. * Lue, C., Halekas, J.S., Poppe, A.R., McFadden, J.P. (2018). ARTEMIS Observations of Solar Wind Proton Scattering off the Lunar Surface. *Journal of Geophysical Research (Space Physics)*, *123*, 5289-5299.
198. ** Deighan, J., Jain, S.K., Chaffin, M.S., Fang, X., Halekas, J.S., Clarke, J.T., Schneider, N.M., Stewart, A.I.F., Chaufray, J. -Y., Evans, J.S., Stevens, M.H., Mayyasi, M., Stiepen, A., Crismani, M., McClintock, W.E., Holsclaw, G.M., Lo, D.Y., Montmessin, F., Lefevre, F., Jakosky, B.M. (2018). Discovery of a proton aurora at Mars. *Nature Astronomy*, *2*, 802-807.
197. **** Romanelli, N., Modolo, R., Leblanc, F., Chaufray, J. -Y., Hess, S., Brain, D., Connerney, J., Halekas, J., Mcfadden, J., Jakosky, B. (2018). Effects of the Crustal Magnetic Fields and Changes in the IMF Orientation on the Magnetosphere of Mars: MAVEN Observations and LatHyS Results. *Journal of Geophysical Research (Space Physics)*, *123*, 5315-5333.
196. **** Inui, S., Seki, K., Namekawa, T., Sakai, S., Brain, D.A., Hara, T., McFadden, J.P., Halekas, J.S., Mitchell, D.L., Mazelle, C., DiBraccio, G.A., Jakosky, B.M. (2018). Cold Dense Ion Outflow Observed in the Martian-Induced Magnetotail by MAVEN. *Geophysical Research Letters*, *45*, 5283-5289.
195. ** Artemyev, A. V., Angelopoulos, V., Halekas, J. S., Vinogradov, A. A., Vasko, I. Y., Zelenyi, L. M. (2018). Dynamics of Intense Currents in the Solar Wind. *Astrophysical Journal*, *859*, 95.
194. **** Gruesbeck, J. R., Espley, J. R., Connerney, John E.P., DiBraccio, G. A., Soobiah, Y. I., Brain, D., Mazelle, C., Dann, J., Halekas, J., Mitchell, D. L. (2018). The Three-Dimensional Bow Shock of Mars as Observed by MAVEN. *Journal of Geophysical Research (Space Physics)*, *123*, 4542-4555.
193. *** Egan, H., Ma, Y., Dong, C., Modolo, R., Jarvinen, R., Bougher, S., Halekas, J., Brain, D., Mcfadden, J., Connerney, J., Mitchell, D., Jakosky, B. (2018). Comparison of Global Martian Plasma Models in the Context of MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *123*, 3714-3726.
192. **** Mazelle, C.X., Meziane, K., Mitchell, D.L., Garnier, P., Espley, J.R., Hamza, A.M., Halekas, J.,

Jakosky, B.M. (2018). Evidence for Neutrals-Foreshock Electrons Impact at Mars. *Geophysical Research Letters*, *45*, 3768-3774.

191. *** Lillis, R. J., Mitchell, D. L., Steckiewicz, M., Brain, D., Xu, S., Weber, T., Halekas, J., Connerney, J., Espley, J., Benna, M., Elrod, M., Thiemann, E., Eparvier, F. (2018). Ionizing Electrons on the Martian Nightside: Structure and Variability. *Journal of Geophysical Research (Space Physics)*, *123*, 4349-4363.
190. * Harada, Y., Halekas, J.S., DiBraccio, G.A., Xu, S., Espley, J., Mcfadden, J.P., Mitchell, D.L., Mazelle, C., Brain, D.A., Hara, T., Ma, Y.J., Ruhunusiri, S., Jakosky, B.M. (2018). Magnetic Reconnection on Dayside Crustal Magnetic Fields at Mars: MAVEN Observations. *Geophysical Research Letters*, *45*, 4550-4558.
189. *** Fowler, C.M., Andersson, L., Ergun, R.E., Harada, Y., Hara, T., Collinson, G., Peterson, W.K., Espley, J., Halekas, J., Mcfadden, J., Mitchell, D.L., Mazelle, C., Benna, M., Jakosky, B.M. (2018). MAVEN Observations of Solar Wind-Driven Magnetosonic Waves Heating the Martian Dayside Ionosphere. *Journal of Geophysical Research (Space Physics)*, *123*, 4129-4149.
188. **** Leblanc, F., Martinez, A., Chaufray, J.Y., Modolo, R., Hara, T., Luhmann, J., Lillis, R., Curry, S., McFadden, J., Halekas, J., Jakosky, B. (2018). On Mars's Atmospheric Sputtering After MAVEN's First Martian Year of Measurements. *Geophysical Research Letters*, *45*, 4685-4691.
187. * Ruhunusiri, S., Halekas, J.S., Espley, J.R., Eparvier, F., Brain, D., Mazelle, C., Harada, Y., DiBraccio, G.A., Thiemann, E.M.B., Larson,D.E., Mitchell, D.L., Jakosky, B.M., Sulaiman,A.H. (2018). One-Hertz Waves at Mars: MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *123*, 3460-3476.
186. **** Ma, Y., Russell, C. T., Toth, G., Chen, Y., Nagy, A. F., Harada, Y., McFadden, J., Halekas, J. S., Lillis, R., Connerney, John E.P., Espley, J., DiBraccio, G. A., Markidis, S., Peng, I. B., Fang, X., Jakosky, B. M. (2018). Reconnection in the Martian Magnetotail: Hall-MHD With Embedded Particle-in-Cell Simulations. *Journal of Geophysical Research (Space Physics)*, *123*, 3742-3763.
185. *** Rahmati, A., Larson, D.E., Cravens, T.E., Lillis,R.J., Halekas, J.S., McFadden, J.P., Mitchell,D.L., Thiemann, E.M.B., Connerney, J.E.P., Dunn, P.A., Lee, C.O., Eparvier, F.G., DiBraccio, G.A., Espley, J.R., Luhmann, J.G., Mazelle, C., Jakosky, B.M. (2018). Seasonal Variability of Neutral Escape from Mars as Derived From MAVEN Pickup Ion Observations. *Journal of Geophysical Research (Planets)*, *123*, 1192-1202.
184. *** DiBraccio, G. A., Luhmann, J. G., Curry, S. M., Espley, J. R., Xu, S., Mitchell, D. L., Ma, Y., Dong, C., Gruesbeck, J. R., Connerney, John E.P., Harada, Y., Ruhunusiri, S., Halekas, J. S., Soobiah, Y., Hara, T., Brain, D. A., Jakosky, B. M. (2018). The Twisted Configuration of the Martian Magnetotail: MAVEN Observations. *Geophysical Research Letters*, *45*, 4559-4568.
183. ** Marquette, M. L., Lillis, R. J., Halekas, J.S., Luhmann, J.G., Gruesbeck, J.R., Espley, J.R. (2018). Autocorrelation Study of Solar Wind Plasma and IMF Properties as Measured by the MAVEN Spacecraft. *Journal of Geophysical Research (Space Physics)*, *123*, 2493-2512.
182. *** Guo, J., Lillis, R., Wimmer-Schweingruber, R. F., Zeitlin, C., Simonson, P., Rahmati, A., Posner, A., Papaioannou, A., Lundt, N., Lee, C. O., Larson, D., Halekas, J., Hassler, D. M., Ehresmann, B., Dunn, P., Bottcher, Stephan (2018). Measurements of Forbush decreases at Mars: both by MSL on ground and by MAVEN in orbit. *Astronomy and Astrophysics*, *611*, A79.
181. **** Vaisberg, O.L., Ermakov, V.N., Shuvalov, S. D., Zelenyi, L.M., Halekas, J., DiBraccio, G.A., McFadden, J., Dubinin, E.M. (2018). The Structure of Martian Magnetosphere at the Dayside Terminator Region as Observed on MAVEN Spacecraft. *Journal of Geophysical Research (Space Physics)*, *123*, 2679-2695.
180. *** Dubinin, E., Fraenz, M., Patzold, M., Halekas,J.S., Mcfadden, J., Connerney, J.E.P., Jakosky, B.M., Vaisberg, O., Zelenyi, L. (2018). Solar Wind Deflection by Mass Loading in the Martian Magnetosheath Based on MAVEN Observations. *Geophysical Research Letters*, *45*, 2574-2579.
179. *** Heavens, N. G., Kleinbohl, Armin, Chaffin, M. S., Halekas, J. S., Kass, D. M., Hayne, P. O., McCleese, D. J., Piqueux, S., Shirley, J. H., Schofield, J. T. (2018). Hydrogen escape from Mars enhanced by deep convection in dust storms. *Nature Astronomy*, *2*, 126-132.
178. ** Lentz, C.L., Baker, D.N., Jaynes, A.N., Dewey, R.M., Lee, C.O., Halekas, J.S., Brain, D.A. (2018). Statistical Similarities Between WSA-ENLIL+Cone Model and MAVEN in Situ Observations From November 2014 to March 2016. *Space Weather*, *16*, 157-171.
177. *** Fowler, C.M., Andersson, L., Peterson, W.K., Halekas, J., Nagy, A.F., Ergun, R.E., Espley, J., Mitchell, D.L., Connerney, J.E.P., Mazelle, C., Mahaffy, P.R., Jakosky, B.M. (2018). Correlations between enhanced electron temperatures and electric field wave power in the Martian ionosphere.

Geophysical Research Letters, *45*, 493-501.

176. *** Lillis, R. J., Halekas, J.S., Fillingim, M.O., Poppe, A.R., Collinson, G., Brain, D. A., Mitchell, D.L. (2018). Field-Aligned Electrostatic Potentials Above the Martian Exobase From MGS Electron Reflectometry: Structure and Variability. *Journal of Geophysical Research (Planets)*, *123*, 67-92.
175. *** Poppe, A.R., Farrell, W.M., Halekas, J.S. (2018). Formation Timescales of Amorphous Rims on Lunar Grains Derived From ARTEMIS Observations. *Journal of Geophysical Research (Planets)*, *123*, 37-46.
174. * Harada, Y., Gurnett, D.A., Kopf, A.J., Halekas, J.S., Ruhunusiri, S. (2018). Ionospheric Irregularities at Mars Probed by MARSIS Topside Sounding. *Journal of Geophysical Research (Space Physics)*, *123*, 1018-1030.
173. * Halekas, J.S., Brain, D.A., Luhmann, J.G., DiBraccio, G.A., Ruhunusiri, S., Harada, Y., Fowler, C.M., Mitchell, D.L., Connerney, J.E.P., Espley, J.R., Mazelle, C., Jakosky, B.M. (2017). Flows, Fields, and Forces in the Mars-Solar Wind Interaction. *Journal of Geophysical Research (Space Physics)*, *122*(A11), 11.
172. **** Dubinin, E., Fraenz, M., Pätzold, M., McFadden, J., Halekas, J.S., DiBraccio, G.A., Connerney, J.E.P., Eparvier, F., Brain, D., Jakosky, B.M., Vaisberg, O., Zelenyi, L. (2017). The Effect of Solar Wind Variations on the Escape of Oxygen Ions From Mars Through Different Channels: MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *122*(A11), 11.
171. **** Weber, T., Brain, D., Mitchell, D., Xu, S., Connerney, J., Halekas, J. (2017). Characterization of Low-Altitude Nightside Martian Magnetic Topology Using Electron Pitch Angle Distributions. *Journal of Geophysical Research (Space Physics)*, *122*, 9777-9789.
170. * Howard, S.K., Halekas, J.S., Farrell, W.M., McFadden, J.P., Glassmeier, K.-H. (2017). Identifying Ultra Low Frequency Waves in the Lunar Plasma Environment Using Trajectory Analysis and Resonance Conditions. *Journal of Geophysical Research (Space Physics)*, *122*, 9983-9993.
169. *** Fowler, C.M., Ergun, R.E., Andersson, L., Peterson, W.K., Hara, T., Mcfadden, J., Espley, J., Halekas, J., Mitchell, D.L., Mazelle, C., Jakosky, B.M. (2017). Ion Heating in the Martian Ionosphere. *Journal of Geophysical Research (Space Physics)*, *122*(A11), 10.
168. * Duru, F., Gurnett, D.A., Morgan, D.D., Halekas, J., Frahm, R.A., Lundin, R., Dejong, W., Ertl, C., Venable, A., Wilkinson, C., Fraenz, M., Nemec, F., Connerney, J.E.P., Espley, J.R., Larson, D., Winningham, J.D., Plaut, J., Mahaffy, P.R. (2017). Response of the Martian ionosphere to solar activity including SEPs and ICMEs in a two-week period starting on 25 February 2015. *Planetary Space Science*, *145*, 28-37.
167. *** Collinson, G., Sibeck, D., Omidi, N., Grebowsky, J., Halekas, J., Mitchell, D., Espley, J., Zhang, T., Persson, M., Futaana, Y., Jakosky, B. (2017). Spontaneous hot flow anomalies at Mars and Venus. *Journal of Geophysical Research (Space Physics)*, *122*, 9910-9923.
166. *** Garnier, P., Steckiewicz, M., Mazelle, C., Xu, S., Mitchell, D., Holmberg, M.K.G., Halekas, J.S., Andersson, L., Brain, D.A., Connerney, J.E.P., Espley, J.R., Lillis, R.J., Luhmann, J.G., Sauvaud, J.-A., Jakosky, B.M. (2017). The Martian Photoelectron Boundary as Seen by MAVEN. *Journal of Geophysical Research (Space Physics)*, *122*(A11), 10.
165. * Harada, Y., Gurnett, D.A., Kopf, A.J., Halekas, J.S., Ruhunusiri, S., Lee, C.O., Hara, T., Espley, J., DiBraccio, G.A., Mitchell, D.L., Mazelle, C., Larson, D.E., Jakosky, B.M. (2017). Dynamic response of the Martian ionosphere to an interplanetary shock: Mars Express and MAVEN observations, *Geophys. Res. Lett., 44*, 9116-9123.
164. **** Matsunaga, K., Seki, K., Brain, D.A., Hara, T., Masunaga, K., Mcfadden, J.P., Halekas, J.S., Mitchell, D.L., Mazelle, C., Espley, J.R., Gruesbeck, J., Jakosky, B.M. (2017). Statistical Study of Relations Between the Induced Magnetosphere, Ion Composition, and Pressure Balance Boundaries Around Mars Based On MAVEN Observations. *Journal of Geophysical Research (Space Physics)*, *122*, 9723-9737.
163. *** Fowler, C.M., Andersson, L., Halekas, J., Espley, J.R., Mazelle, C., Coughlin, E.R., Ergun, R.E., Andrews, D.J., Connerney, J.E.P., Jakosky, B. (2017). Electric and magnetic variations in the near-Mars environment. *Journal of Geophysical Research (Space Physics)*, *122*, 8536-8559.
162. **** Hara, T., Harada, Y., Mitchell, D.L., DiBraccio, G.A., Espley, J.R., Brain, D.A., Halekas, J.S., Seki, K., Luhmann, J.G., McFadden, J.P., Mazelle, C., Jakosky, B.M. (2017). On the origins of magnetic flux ropes in near-Mars magnetotail current sheets. *Geophys. Res. Lett., 44*, 7653-7662.
161. **** Dubinin, E., Fraenz, M., Pätzold, M., McFadden, J., Mahaffy, P.R., Eparvier, F., Halekas, J.S., Connerney, J.E.P., Brain, D., Jakosky, B.M., Vaisberg, O., Zelenyi, L. (2017). Effects of solar irradiance

on the upper ionosphere and oxygen ion escape at Mars: MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *122*, 7142-7152.

160. * Halekas, J.S., Poppe, A.R., Lue, C., Farrell, W.M., McFadden, J.P. (2017). Distribution and solar wind control of compressional solar wind-magnetic anomaly interactions observed at the Moon by ARTEMIS. *Journal of Geophysical Research (Space Physics)*, *122*, 6240-6254.
159. **** Luhmann, J.G., Dong, C.F., Ma, Y.J., Curry, S.M., Xu, S., Lee, C.O., Hara, T., Halekas, J., Li, Y., Gruesbeck, J.R., Espley, J., Brain, D.A., Russell, C.T., Jakosky, B.M. (2017). Martian magnetic storms. *Journal of Geophysical Research (Space Physics)*, *122*, 6185-6209.
158. * Harada, Y., Poppe, A.R., Halekas, J.S., Chamberlin, P.C., McFadden, J.P. (2017). Photoemission and electrostatic potentials on the dayside lunar surface in the terrestrial magnetotail lobes. *Geophys. Res. Lett., 44*, 5276-5282.
157. * Walker, J.J., Halekas, J.S., Horányi, M., Szalay, J.R., Poppe, A.R. (2017). Evidence for detection of energetic neutral atoms by LADEE. *Planetary Space Science*, *139*, 31-36.
156. *** Artemyev, A.V., Angelopoulos, V., Halekas, J.S., Runov, A., Zelenyi, L.M., McFadden, J.P. (2017). Mars's magnetotail: Nature's current sheet laboratory. *Journal of Geophysical Research (Space Physics)*, *122*, 5404-5417.
155. Halekas, J.S. (2017). Seasonal variability of the hydrogen exosphere of Mars. *Journal of Geophysical Research (Planets)*, *122*, 901-911.
154. * Harada, Y., Halekas, J.S., McFadden, J.P., Espley, J., DiBraccio, G.A., Mitchell, D.L., Mazelle, C., Brain, D.A., Andersson, L., Ma, Y.J., Larson, D.E., Xu, S., Hara, T., Ruhunusiri, S., Livi, R., Jakosky, B.M. (2017). Survey of magnetic reconnection signatures in the Martian magnetotail with MAVEN. *Journal of Geophysical Research (Space Physics)*, *122*, 5114-5131.
153. **** Kopf, A.J., Gurnett, D.A., DiBraccio, G.A., Morgan, D.D., Halekas, J.S. (2017). The transient topside layer and associated current sheet in the ionosphere of Mars. *Journal of Geophysical Research (Space Physics)*, *122*, 5579-5590.
152. *** Poppe, A.R., Halekas, J.S., Lue, C., Fatemi, S. (2017). ARTEMIS observations of the solar wind proton scattering function from lunar crustal magnetic anomalies. *Journal of Geophysical Research (Planets)*, *122*, 771-783.
151. **** DiBraccio, G.A., Dann, J., Espley, J.R., Gruesbeck, J.R., Soobiah, Y., Connerney, J.E.P., Halekas, J.S., Harada, Y., Bowers, C.F., Brain, D.A., Ruhunusiri, S., Hara, T., Jakosky, B.M. (2017). MAVEN observations of tail current sheet flapping at Mars. *Journal of Geophysical Research (Space Physics)*, *122*, 4308-4324.
150. **** Dong, Y., Fang, X., Brain, D.A., McFadden, J.P., Halekas, J.S., Connerney, J.E.P., Eparvier, F., Andersson, L., Mitchell, D., Jakosky, B.M. (2017). Seasonal variability of Martian ion escape through the plume and tail from MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *122*, 4009-4022.
149. **** Masunaga, K., Seki, K., Brain, D.A., Fang, X., Dong, Y., Jakosky, B.M., McFadden, J.P., Halekas, J.S., Connerney, J.E.P., Mitchell, D.L., Eparvier, F.G. (2017). Statistical analysis of the reflection of incident O+ pickup ions at Mars: MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *122*, 4089-4101.
148. **** Fang, X., Ma, Y., Masunaga, K., Dong, Y., Brain, D., Halekas, J., Lillis, R., Jakosky, B., Connerney, J., Grebowsky, J., Dong, C. (2017). The Mars crustal magnetic field control of plasma boundary locations and atmospheric loss: MHD prediction and comparison with MAVEN. *Journal of Geophysical Research (Space Physics)*, *122*, 4117-4137.
147. *** Rahmati, A., Larson, D.E., Cravens, T.E., Lillis, R.J., Halekas, J.S., McFadden, J.P., Dunn, P.A., Mitchell, D.L., Thiemann, E.M.B., Eparvier, F.G., DiBraccio, G.A., Espley, J.R., Mazelle, C., Jakosky, B.M. (2017). MAVEN measured oxygen and hydrogen pickup ions: Probing the Martian exosphere and neutral escape. *Journal of Geophysical Research (Space Physics)*, *122*, 3689-3706.
146. *** Lee, C.O., Hara, T., Halekas, J.S., Thiemann, E., Chamberlin, P., Eparvier, F., Lillis, R.J., Larson, D.E., Dunn, P.A., Espley, J.R., Gruesbeck, J., Curry, S.M., Luhmann, J.G., Jakosky, B.M. (2017). MAVEN observations of the solar cycle 24 space weather conditions at Mars. *Journal of Geophysical Research (Space Physics)*, *122*, 2768-2794.
145. **** Lillis, R.J., Deighan, J., Fox, J.L., Bougher, S.W., Lee, Y., Combi, M.R., Cravens, T.E., Rahmati, A., Mahaffy, P.R., Benna, M., Elrod, M.K., McFadden, J.P., Ergun, R.E., Andersson, L., Fowler, C.M., Jakosky, B.M., Thiemann, E., Eparvier, F., Halekas, J.S., Leblanc, F., Chaufray, J.-Y. (2017). Photochemical escape of oxygen from Mars: First results from MAVEN in situ data. *Journal of*

Geophysical Research (Space Physics), *122*, 3815-3836.

144. *** Meziane, K., Mazelle, C.X., Romanelli, N., Mitchell, D.L., Espley, J.R., Connerney, J.E.P., Hamza, A.M., Halekas, J., McFadden, J.P., Jakosky, B.M. (2017). Martian electron foreshock from MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *122*, 1531-1541.
143. *** Ma, Y.J., Russell, C.T., Fang, X., Dong, C.F., Nagy, A.F., Toth, G., Halekas, J.S., Connerney, J.E.P., Espley, J.R., Mahaffy, P.R., Benna, M., McFadden, J., Mitchell, D.L., Andersson, L., Jakosky, B.M. (2017). Variations of the Martian plasma environment during the ICME passage on 8 March 2015: A time-dependent MHD study. *Journal of Geophysical Research (Space Physics)*, *122*, 1714-1730.
142. * Ruhunusiri, S., Halekas, J.S., Espley, J.R., Mazelle, C., Brain, D., Harada, Y., DiBraccio, G.A., Livi, R., Larson, D.E., Mitchell, D.L., Jakosky, B.M., Howes, G.G. (2017). Characterization of turbulence in the Mars plasma environment with MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *122*, 656-674.
141. **** Steckiewicz, M., Garnier, P., André, N., Mitchell, D.L., Andersson, L., Penou, E., Beth, A., Fedorov, A., Sauvaud, J.-A., Mazelle, C., Brain, D.A., Espley, J.R., McFadden, J., Halekas, J.S., Larson, D.E., Lillis, R.J., Luhmann, J.G., Soobiah, Y., Jakosky, B.M. (2017). Comparative study of the Martian suprathermal electron depletions based on Mars Global Surveyor, Mars Express, and Mars Atmosphere and Volatile EvolutioN mission observations. *Journal of Geophysical Research (Space Physics)*, *122*, 857-873.
140. *** Hara, T., Brain, D.A., Mitchell, D.L., Luhmann, J.G., Seki, K., Hasegawa, H., Mcfadden, J.P., Halekas, J.S., Espley, J.R., Harada, Y., Livi, R., DiBraccio, G.A., Connerney, J.E.P., Mazelle, C., Andersson, L., Jakosky, B.M. (2017). MAVEN observations of a giant ionospheric flux rope near Mars resulting from interaction between the crustal and interplanetary draped magnetic fields. *Journal of Geophysical Research (Space Physics)*, *122*, 828-842.
139. *** Hara, T., Luhmann, J.G., Leblanc, F., Curry, S.M., Seki, K., Brain, D.A., Halekas, J.S., Harada, Y., McFadden, J.P., Livi, R., DiBraccio, G.A., Connerney, J.E.P., Jakosky, B.M. (2017). MAVEN observations on a hemispheric asymmetry of precipitating ions toward the Martian upper atmosphere according to the upstream solar wind electric field. *Journal of Geophysical Research (Space Physics)*, *122*, 1083-1101.
138. * Halekas, J.S., Ruhunusiri, S., Harada, Y., Collinson, G., Mitchell, D.L., Mazelle, C., McFadden, J.P., Connerney, J.E.P., Espley, J.R., Eparvier, F., Luhmann, J.G., Jakosky, B.M. (2017). Structure, dynamics, and seasonal variability of the Mars-solar wind interaction: MAVEN Solar Wind Ion Analyzer in-flight performance and science results. *Journal of Geophysical Research (Space Physics)*, *122*, 547-578.
137. *** Sulaiman, A.H., Gurnett, D.A., Halekas, J.S., Yates, J.N., Kurth, W.S., Dougherty, M.K. (2017). Whistler mode waves upstream of Saturn. *Journal of Geophysical Research (Space Physics)*, *122*, 227-234.
136. *** Kasper, J.C., Abiad, R., Austin, G., Balat-Pichelin, M., Bale, S.D., Belcher, J.W., Berg, P., Bergner, H., Berthomier, M., Bookbinder, J., Brodu, E., Caldwell, D., Case, A.W., Chandran, B.D.G., Cheimets, P., Cirtain, J.W., Cranmer, S.R., Curtis, D.W., Daigneau, P., Dalton, G., Dasgupta, B., DeTomaso, D., Diaz-Aguado, M., Djordjevic, B., Donaskowski, B., Effinger, M., Florinski, V., Fox, N., Freeman, M., Gallagher, D., Gary, S.P., Gauron, T., Gates, R., Goldstein, M., Golub, L., Gordon, D.A., Gurnee, R., Guth, G., Halekas, J., Hatch, K., Heerikuisen, J., Ho, G., Hu, Q., Johnson, G., Jordan, S.P., Korreck, K.E., Larson, D., Lazarus, A.J., Li, G., Livi, R., Ludlam, M., Maksimovic, M., McFadden, J.P., Marchant, W., Maruca, B.A., McComas, D.J., Messina, L., Mercer, T., Park, S., Peddie, A.M., Pogorelov, N., Reinhart, M.J., Richardson, J.D., Robinson, M., Rosen, I., Skoug, R.M., Slagle, A., Steinberg, J.T., Stevens, M.L., Szabo, A., Taylor, E.R., Tiu, C., Turin, P., Velli, M., Webb, G., Whittlesey, P., Wright, K., Wu, S.T., Zank, G. (2016). 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*, 131-186.
135. *** Romanelli, N., Mazelle, C., Chaufray, J.Y., Meziane, K., Shan, L., Ruhunusiri, S., Connerney, J.E.P., Espley, J.R., Eparvier, F., Thiemann, E., Halekas, J.S., Mitchell, D.L., McFadden, J.P., Brain, D., Jakosky, B. M. (2016). Proton cyclotron waves occurrence rate upstream from Mars observed by MAVEN: Associated variability of the Martian upper atmosphere. *Journal of Geophysical Research (Space Physics)*, *121*(A10), 11.
134. **** Bamford, R.A., Alves, E.P., Cruz, F., Kellett, B.J., Fonseca, R.A., Silva, L.Õ., Trines, R.M.G.M., Halekas, J.S., Kramer, G., Harnett, E., Cairns, R.A., Bingham, R. (2016). 3D PIC Simulations of Collisionless Shocks at Lunar Magnetic Anomalies and Their Role in Forming Lunar Swirls. *The Astrophysical Journal*, *830*, 146.

133. *** Harada, Y., Andersson, L., Fowler, C.M., Mitchell, D.L., Halekas, J.S., Mazelle, C., Espley, J., DiBraccio, G.A., McFadden, J.P., Brain, D.A., Xu, S., Ruhunusiri, S., Larson, D.E., Lillis, R.J., Hara, T., Livi, R., Jakosky, B.M. (2016). MAVEN observations of electron-induced whistler mode waves in the Martian magnetosphere. *Journal of Geophysical Research (Space Physics)*, *121*, 9717-9731.
132. * Poppe, A.R., Fillingim, M.Õ., Halekas, J.S., Raeder, J., Angelopoulos, V. (2016). ARTEMIS observations of terrestrial ionospheric molecular ion outflow at the Moon. *Geophys. Res. Lett., 43*, 6749-6758.
131. ** Dewey, R.M., Baker, D.N., Mays, M.L., Brain, D.A., Jakosky, B.M., Halekas, J.S., Connerney, J.E.P., Odstrcil, D., Luhmann, J.G., Lee, C.O. (2016). Continuous solar wind forcing knowledge: Providing continuous conditions at Mars with the WSA-ENLIL + Cone model. *Journal of Geophysical Research (Space Physics)*, *121*, 6207-6222.
130. * Halekas, J.S., Poppe, A.R., Farrell, W.M., McFadden, J.P. (2016). Structure and composition of the distant lunar exosphere: Constraints from ARTEMIS observations of ion acceleration in time-varying fields. *Journal of Geophysical Research: Planets*, *121*.
129. *** Hara, T., Luhmann, J.G., Halekas, J.S., Espley, J.R., Seki, K., Brain, D.A., Hasegawa, H., McFadden, J.P., Mitchell, D.L., Mazelle, C., Harada, Y., Livi, R., DiBraccio, G.A., Connerney, J.E.P., Andersson, L., Jakosky, B. M. (2016). MAVEN observations of magnetic flux ropes with a strong field amplitude in the Martian magnetosheath during the ICME passage on 8 March 2015, *Geophys. Res. Lett., 43*, 4816-4824.
128. * Ruhunusiri, S., Halekas, J.S., McFadden, J.P., Connerney, J.E.P., Espley, J.R., Harada, Y., Livi, R., Seki, K., Mazelle, C., Brain, D., Hara, T., DiBraccio, G.A., Larson, D.E., Mitchell, D.L., Jakosky, B.M., Hasegawa, H. (2016). MAVEN observations of partially developed Kelvin-Helmholtz vortices at Mars., *Geophys. Res. Lett., 43*, 4763-4773.
127. ** Poppe, A.R., Halekas, J.S., Szalay, J.R., Horányi, M., Levin, Z., Kempf, S. (2016). LADEE/LDEX observations of lunar pickup ion distribution and variability, *Geophys. Res. Lett., 43*, 3069-3077.
126. *** Masunaga, K., Seki, K., Brain, D.A., Fang, X., Dong, Y., Jakosky, B.M., McFadden, J.P., Halekas, J.S., Connerney, J.E.P. (2016). O+ ion beams reflected below the Martian bow shock: MAVEN observations. *Journal of Geophysical Research (Space Physics)*, *121*, 3093-3107.
125. *** Lillis, R.J., Lee, C.Õ., Larson, D., Luhmann, J.G., Halekas, J.S., Connerney, J.E.P., Jakosky, B.M. (2016). Shadowing and anisotropy of solar energetic ions at Mars measured by MAVEN during the March 2015 solar storm. *Journal of Geophysical Research (Space Physics)*, *121*, 2818-2829.
124. * Ruhunusiri, S., Halekas, J.S., Connerney, J.E.P., Espley, J.R., McFadden, J.P., Mazelle, C., Brain, D., Collinson, G., Harada, Y., Larson, D.E., Mitchell, D.L., Livi, R., Jakosky, B.M. (2016). MAVEN observation of an obliquely propagating low-frequency wave upstream of Mars. *Journal of Geophysical Research (Space Physics)*, *121*, 2374-2389.
123. *** Harada, Y., Mitchell, D.L., Halekas, J.S., McFadden, J.P., Mazelle, C., Connerney, J.E.P., Espley, J., Brain, D.A., Larson, D.E., Lillis, R.J., Hara, T., Livi, R., DiBraccio, G.A., Ruhunusiri, S., Jakosky, B. M. (2016). MAVEN observations of energy-time dispersed electron signatures in Martian crustal magnetic fields., *Geophys. Res. Lett., 43*, 939-944.
122. * Halekas, J.S., Brain, D.A., Ruhunusiri, S., McFadden, J.P., Mitchell, D.L., Mazelle, C., Connerney, J.E.P., Harada, Y., Hara, T., Espley, J.R., DiBraccio, G.A., Jakosky, B.M. (2016). Plasma clouds and snowplows: Bulk plasma escape from Mars observed by MAVEN., *Geophys. Res. Lett., 43*, 1426-1434.
121. **** Edberg, N.J.T., Eriksson, A.I., Odelstad, E., Vigren, E., Andrews, D.J., Johansson, F., Burch, J.L., Carr, C.M., Cupido, E., Glassmeier, K.-H., Goldstein, R., Halekas, J.S., Henri, P., Koenders, C., Mandt, K., Mokashi, P., Nemeth, Z., Nilsson, H., Ramstad, R., Richter, I., Wieser, G.S. (2016). Solar wind interaction with comet 67P: Impacts of corotating interaction regions. *Journal of Geophysical Research (Space Physics)*, *121*, 949-965.
120. ** Hurley, D. M., Cook, J. C., Benna, M., Halekas, J. S., Feldman, P. D., Retherford, K. D., Hodges, R. R., Grava, C., Mahaffy, P., Gladstone, G. R., others (2016). Understanding temporal and spatial variability of the lunar helium atmosphere using simultaneous observations from LRO, LADEE, and ARTEMIS. *Icarus, 273*, 45-52.
119. *** Grava, C., Retherford, K., Hurley, D., Feldman, P., Gladstone, G., Greathouse, T., Cook, J., Stern, S., Pryor, W., Halekas, J., others (2016). Lunar exospheric helium observations of LRO/LAMP coordinated with ARTEMIS. *Icarus, 273*, 36-44.
118. * Halekas, J. S., Taylor, E. R., Dalton, G., Johnson, G., Curtis, D. W., McFadden, J. P., Mitchell, D. L., Lin, R. P., Jakosky, B. M. (2015). The Solar Wind Ion Analyzer for MAVEN. *Space Science Reviews*, *195*, 125-151.

117. *** Espley, J. R., DiBraccio, G. A., Connerney, J. E., Brain, D., Gruesbeck, J., Soobiah, Y., Halekas, J., Combi, M., Luhmann, J., Ma, Y., others (2015). A comet engulfs Mars: MAVEN observations of comet Siding Spring's influence on the Martian magnetosphere. *Geophysical Research Letters*, *42*(21), 8810–8818.
116. ** Collinson, G., Halekas, J., Grebowsky, J., Connerney, J., Mitchell, D., Espley, J., DiBraccio, G., Mazelle, C., Sauvaud, J.-A., Fedorov, A., others (2015). A hot flow anomaly at Mars. *Geophysical Research Letters*, *42*(21), 9121–9127.
115. *** Steckiewicz, M., Mazelle, C., Garnier, P., André, N., Penou, E., Beth, A., Sauvaud, J.-A., Toublanc, D., Mitchell, D., McFadden, J., others (2015). Altitude dependence of nightside Martian suprathermal electron depletions as revealed by MAVEN observations. *Geophysical Research Letters*, *42*(21), 8877–8884.
114. * Halekas, J. S., Benna, M., Mahaffy, P. R., Elphic, R. C., Poppe, A. R., Delory, G. T. (2015). Detections of lunar exospheric ions by the LADEE neutral mass spectrometer. *Geophysical Research Letters*, *42*(13), 5162-5169.
113. * Bougher, S., Jakosky, B., Halekas, J., Grebowsky, J., Luhmann, J., Mahaffy, P., Connerney, J., Eparvier, F., Ergun, R., Larson, D., others (2015). Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. *Science*, *350*(6261), aad0459.
112. *** Hara, T., Mitchell, D. L., McFadden, J. P., Seki, K., Brain, D. A., Halekas, J. S., Harada, Y., Espley, J. R., DiBraccio, G. A., Connerney, J. E., others (2015). Estimation of the spatial structure of a detached magnetic flux rope at Mars based on simultaneous MAVEN plasma and magnetic field observations. *Geophysical Research Letters*, *42*(21), 8933–8941.
111. *** Luhmann, J., Dong, C., Ma, Y., Curry, S., Mitchell, D., Espley, J., Connerney, J., Halekas, J., Brain, D., Jakosky, B., others (2015). Implications of MAVEN Mars near-wake measurements and models. *Geophysical Research Letters*, *42*(21), 9087–9094.
110. *** Vogt, M. F., Withers, P., Mahaffy, P. R., Benna, M., Elrod, M. K., Halekas, J. S., Connerney, J. E., Espley, J. R., Mitchell, D. L., Mazelle, C., others (2015). Ionopause-like density gradients in the Martian ionosphere: A first look with MAVEN. *Geophysical Research Letters*, *42*(21), 8885–8893.
109. * Ruhunusiri, S., Halekas, J., Connerney, J., Espley, JR, McFadden, J., Larson, D., Mitchell, D., Mazelle, C., Jakosky, B. (2015). Low-frequency waves in the Martian magnetosphere and their response to upstream solar wind driving conditions. *Geophysical Research Letters*, *42*(21), 8917–8924.
108. * Harada, Y., Halekas, J., McFadden, J., Mitchell, D., Mazelle, C., Connerney, J., Espley, J., Larson, D., Brain, D., Andersson, L., others (2015). Magnetic reconnection in the near-Mars magnetotail: MAVEN observations. *Geophysical Research Letters*, *42*(21), 8838–8845.
107. *** DiBraccio, G. A., Espley, J., Gruesbeck, J. R., Connerney, J. E., Brain, D. A., Halekas, J. S., Mitchell, D. L., McFadden, J. P., Harada, Y., Livi, R., others (2015). Magnetotail dynamics at Mars: Initial MAVEN observations. *Geophysical Research Letters*, *42*(21), 8828–8837.
106. ** Leblanc, F., Modolo, R., Curry, S., Luhmann, J., Lillis, R., Chaufray, J.-Y., Hara, T., McFadden, J., Halekas, J., Eparvier, F., others (2015). Mars heavy ion precipitating flux as measured by Mars Atmosphere and Volatile EvolutioN. *Geophysical Research Letters*, *42*(21), 9135–9141.
105. * Harada, Y., Halekas, J., McFadden, J., Mitchell, D., Mazelle, C., Connerney, J., Espley, J., Larson, D., Brain, D., DiBraccio, G., others (2015). Marsward and tailward ions in the near-Mars magnetotail: MAVEN observations. *Geophysical Research Letters*, *42*(21), 8925–8932.
104. *** Rahmati, A., Larson, D., Cravens, T., Lillis, R., Dunn, P., Halekas, J., Connerney, J., Eparvier, F., Thiemann, E., Jakosky, B. (2015). MAVEN insights into oxygen pickup ions at Mars. *Geophysical Research Letters*, *42*(21), 8870–8876.
103. * Halekas, J., Lillis, R., Mitchell, D., Cravens, T., Mazelle, C., Connerney, J., Espley, JR, Mahaffy, P., Benna, M., Jakosky, B., others (2015). MAVEN observations of solar wind hydrogen deposition in the atmosphere of Mars. *Geophysical Research Letters*, *42*(21), 8901–8909.
102. ** Jakosky, B. M., Grebowsky, J. M., Luhmann, J. G., Connerney, J., Eparvier, F., Ergun, R., Halekas, J., Larson, D., Mahaffy, P., Mcfadden, J., others (2015). MAVEN observations of the response of Mars to an interplanetary coronal mass ejection. *Science*, *350*(6261), aad0210.
101. *** Ma, Y., Russell, C., Fang, X., Dong, Y., Nagy, A., Toth, G., Halekas, J., Connerney, J., Espley, JR, Mahaffy, P., others (2015). MHD model results of solar wind interaction with Mars and comparison with MAVEN plasma observations. *Geophysical Research Letters*, *42*(21), 9113–9120.
100. *** Dong, C., Ma, Y., Bougher, S. W., Toth, G., Nagy, A. F., Halekas, J. S., Dong, Y., Curry, S. M., Luhmann, J. G., Brain, D., others (2015). Multifluid MHD study of the solar wind interaction with Mars'

upper atmosphere during the 2015 March 8th ICME event. *Geophysical Research Letters*, *42*(21), 9103–9112.

99. *** Fatemi, S., Fuqua, H., Poppe, A., Delory, G., Halekas, J., Farrell, W., Holmström, M. (2015). On the confinement of lunar induced magnetic fields. *Geophysical Research Letters*, *42*(17), 6931–6938.
98. *** Curry, S. M., Luhmann, J. G., Ma, Y. J., Dong, C., Brain, D., Leblanc, F., Modolo, R., Dong, Y., McFadden, J., Halekas, J., others (2015). Response of Mars O+ pickup ions to the 8 March 2015 ICME: Inferences from MAVEN data-based models. *Geophysical Research Letters*, *42*(21), 9095–9102.
97. *** Luhmann, J. G., Ma, Y. J., Brain, D. A., Ulusen, D., Lillis, R. J., Halekas, J. S., Espley, J. R. (2015). Solar wind interaction effects on the magnetic fields around Mars: Consequences for interplanetary and crustal field measurements. *Planetary and Space Science*.
96. * Harada, Y., Halekas, J. S., Poppe, A. R., Tsugawa, Y., Kurita, S., McFadden, J. P. (2015). Statistical characterization of the foremoon particle and wave morphology: ARTEMIS observations. *Journal of Geophysical Research A: Space Physics*, *120*(6), 4907-4921.
95. *** Dong, Y., Fang, X., Brain, D., McFadden, J., Halekas, J., Connerney, J., Curry, S., Harada, Y., Luhmann, J., Jakosky, B. (2015). Strong plume fluxes at Mars observed by MAVEN: An important planetary ion escape channel. *Geophys. Res. Lett*, *42*, 2.
94. ** Nordheim, T., Jones, G. H., Halekas, J., Roussos, E., Coates, A. J. (2015). Surface charging and electrostatic dust acceleration at the nucleus of comet 67P during periods of low activity. *Planetary and Space Science*, *119*, 24–35.
93. *** Poppe, A. R., Zimmerman, M. I., Halekas, J. S., Farrell, W. M. (2015). The electrostatic plasma environment of a small airless body under non-aligned plasma flow and UV conditions. *Planetary and Space Science*.
92. *** Jakosky, B. M., Lin, R. P., Grebowsky, J. M., Luhmann, J. G., Mitchell, D. F., Beutelschies, G., Priser, T., Acuna, M., Andersson, L., Baird, D., Baker, D., Bartlett, R., Benna, M., Bougher, S., Brain, D., Carson, D., Cauffman, S., Chamberlin, P., Chaufray, J. Y., Cheatom, O., Clarke, J., Connerney, J., Cravens, T., Curtis, D., Delory, G., Demcak, S., DeWolfe, A., Eparvier, F., Ergun, R., Eriksson, A., Espley, J., Fang, X., Folta, D., Fox, J., Gomez-Rosa, C., Habenicht, S., Halekas, J., Holsclaw, G., Houghton, M., Howard, R., Jarosz, M., Jedrich, N., Johnson, M., Kasprzak, W., Kelley, M., King, T., Lankton, M., Larson, D., Leblanc, F., Lefevre, F., Lillis, R., Mahaffy, P., Mazelle, C., McClintock, W., McFadden, J., Mitchell, D. L., Montmessin, F., Morrissey, J., Peterson, W., Possel, W., Sauvaud, J. A., Schneider, N., Sidney, W., Sparacino, S., Stewart, A. I. F., Tolson, R., Toublanc, D., Waters, C., Woods, T., Yelle, R., Zurek, R. (2015). The Mars Atmosphere and Volatile Evolution (MAVEN) Mission. *Space Science Reviews, 195*, 3-48.
91. *** Brain, D. A., McFadden, J., Halekas, J. S., Connerney, J., Bougher, S. W., Curry, S., Dong, C., Dong, Y., Eparvier, F., Fang, X., others (2015). The spatial distribution of planetary ion fluxes near Mars observed by MAVEN. *Geophysical Research Letters*, *42*(21), 9142–9148.
90. * Halekas, J., McFadden, J., Connerney, J., Espley, JR, Brain, D., Mitchell, D., Larson, D., Harada, Y., Hara, T., Ruhunusiri, S., others (2015). Time-dispersed ion signatures observed in the Martian magnetosphere by MAVEN. *Geophysical Research Letters*, *42*(21), 8910–8916.
89. ** Benna, M., Mahaffy, P. R., Halekas, J. S., Elphic, R. C., Delory, G. T. (2015). Variability of helium, neon, and argon in the lunar exosphere as observed by the LADEE NMS instrument. *Geophysical Research Letters*, *42*(10), 3723-3729.
88. ** Connerney, J.E.P., Espley, J.R., DiBraccio, G.A., Gruesbeck, J.R., Oliversen, R.J., Mitchell, D.L., Halekas, J., Mazelle, C., Brain, D., Jakosky, B.M. (2015). First results of the MAVEN magnetic field investigation., *42*, 8819-8827.
87. *** Curry, S.M., Luhmann, J.G., Ma, Y.J., Dong, C.F., Brain, D., Leblanc, F., Modolo, R., Dong, Y., McFadden, J., Halekas, J., Connerney, J., Espley, J., Hara, T., Harada, Y., Lee, C., Fang, X., Jakosky, B. (2015). Response of Mars O+ pickup ions to the 8 March 2015 ICME: Inferences from MAVEN data-based models. *Geophysical Research Letters*, *42*, 9095-9102.
86. ** Poppe, A. R., Sarantos, M., Halekas, J. S., Delory, G. T., Saito, Y., Nishino, M. (2014). Anisotropic solar wind sputtering of the lunar surface induced by crustal magnetic anomalies. *Geophysical Research Letters*, *41*(14), 4865-4872.
85. ** Poppe, A. R., Fatemi, S., Halekas, J. S., Holmström, M., Delory, G. T. (2014). ARTEMIS observations of extreme diamagnetic fields in the lunar wake. *Geophysical Research Letters*, *41*(11), 3766-3773.
84. ** Stubbs, T. J., Farrell, W. M., Halekas, J. S., Burchill, J. K., Collier, M. R., Zimmerman, M. I., Vondrak, R. R., Delory, G. T., Pfaff, R. F. (2014). Dependence of lunar surface charging on solar wind plasma

conditions and solar irradiation. *Planetary and Space Science*, *90*, 10-27.

83. * Halekas, J. S., Poppe, A. R., McFadden, J. P., Angelopoulos, V., Glassmeier, K. H., Brain, D. A. (2014). Evidence for small-scale collisionless shocks at the Moon from ARTEMIS. *Geophysical Research Letters*, *41*(21), 7436-7443.
82. * Harada, Y., Halekas, J. S., Poppe, A. R., Kurita, S., McFadden, J. P. (2014). Extended lunar precursor regions: Electron-wave interaction. *Journal of Geophysical Research: Space Physics*, *119*(11), 9160-9173.
81. *** Zhou, X. Z., Angelopoulos, V., Poppe, A. R., Halekas, J. S., Khurana, K. K., Kivelson, M. G., Fatemi, S., Holmström, M. (2014). Lunar dayside current in the terrestrial lobe: ARTEMIS observations. *Journal of Geophysical Research: Space Physics*, *119*(5), 3381-3391.
80. * Halekas, J. S., Poppe, A. R., McFadden, J. P. (2014). The effects of solar wind velocity distributions on the refilling of the lunar wake: ARTEMIS observations and comparisons to one-dimensional theory. *Journal of Geophysical Research: Space Physics*, *119*(7), 5133-5149.
79. * Harada, Y., Machida, S., Halekas, J. S., Poppe, A. R., McFadden, J. P. (2013). ARTEMIS observations of lunar dayside plasma in the terrestrial magnetotail lobe. *Journal of Geophysical Research: Space Physics*, *118*(6), 3042-3054.
78. * Poppe, A. R., Samad, R., Halekas, J. S., Sarantos, M., Delory, G. T., Farrell, W. M., Angelopoulos, V., McFadden, J. P. (2013). ARTEMIS observations of lunar pick-up ions in the terrestrial magnetotail lobes. *Geophysical Research Letters*, *39*(17).
77. * Zhou, X. Z., Angelopoulos, V., Poppe, A. R., Halekas, J. S. (2013). ARTEMIS observations of lunar pickup ions: Mass constraints on ion species. *Journal of Geophysical Research: Planets*, *118*(9), 1766-1774.
76. * Poppe, A. R., Halekas, J. S., Samad, R., Sarantos, M., Delory, G. T. (2013). Model-based constraints on the lunar exosphere derived from ARTEMIS pickup ion observations in the terrestrial magnetotail. *Journal of Geophysical Research E: Planets*, *118*(5), 1135-1147.
75. **** Farrell, W. M., Hurley, D. M., Hodges, R. R., Killen, R. M., Halekas, J. S., Zimmerman, M. I., Delory, G. T. (2013). Redistribution of lunar polar water to mid-latitudes and its role in forming an OH veneer. *Planetary and Space Science*, *89*, 15-20.
74. * Halekas, J. S., Poppe, A. R., McFadden, J. P., Glassmeier, K. H. (2013). The effects of reflected protons on the plasma environment of the moon for parallel interplanetary magnetic fields. *Geophysical Research Letters*, *40*(17), 4544-4548.
73. *** Farrell, W. M., Poppe, A. R., Zimmerman, M. I., Halekas, J. S., Delory, G. T., Killen, R. M. (2013). The lunar photoelectron sheath: A change in trapping efficiency during a solar storm. *Journal of Geophysical Research E: Planets*, *118*(5), 1114-1122.
72. * Poppe, A. R., Halekas, J. S., Sarantos, M., Delory, G. T. (2013). The self-sputtered contribution to the lunar exosphere. *Journal of Geophysical Research: Planets*, *118*(9), 1934-1944.
71. *** Lillis, R. J., Robbins, S., Manga, M., Halekas, J. S., Frey, H. V. (2013). Time history of the Martian dynamo from crater magnetic field analysis. *Journal of Geophysical Research E: Planets*, *118*(7), 1488-1511.
70. * Halekas, J. S., Poppe, A. R., Delory, G. T., Sarantos, M., McFadden, J. P. (2013). Using ARTEMIS pickup ion observations to place constraints on the lunar atmosphere. *Journal of Geophysical Research E: Planets*, *118*(1), 81-88.
69. *** Eastwood, J. P., Videira, J. J. H., Brain, D. A., Halekas, J. S. (2012). A chain of magnetic flux ropes in the magnetotail of Mars. *Geophysical Research Letters*, *39*(3).
68. * Poppe, A. R., Samad, R., Halekas, J. S., Sarantos, M., Delory, G. T., Farrell, W. M., Angelopoulos, V., McFadden, J. P., (2012). ARTEMIS observations of lunar pick-up ions in the terrestrial magnetotail lobes. *Geophysical Research Letters*, *39*(1), L17104.
67. * Poppe, A. R., Halekas, J. S., Delory, G. T., Farrell, W. M., Angelopoulos, V., McFadden, J. P., Bonnell, J. W., Ergun, R. E. (2012). A comparison of ARTEMIS observations and particle-in-cell modeling of the lunar photoelectron sheath in the terrestrial magnetotail. *Geophysical Research Letters*, *39*(1), L01102.
66. *** Tao, J. B., Ergun, R. E., Newman, D. L., Halekas, J. S., Andersson, L., Angelopoulos, V., Bonnell, J. W., McFadden, J. P., Cully, C. M., Auster, H. U., Glassmeier, K. H., Larson, D. E., Baumjohann, W., Goldman, M. V. (2012). Kinetic instabilities in the lunar wake: ARTEMIS observations. *Journal of Geophysical Research: Space Physics*, *117*(3).
65. * Halekas, J. S., Poppe, A. R., Delory, G. T., Sarantos, M., Farrell, W. M., Angelopoulos, V., McFadden, J. P. (2012). Lunar pickup ions observed by ARTEMIS: Spatial and temporal distribution and constraints on species and source locations. *Journal of Geophysical Research E: Planets*, *117*(6).

64. * Halekas, J. S., Poppe, A. R., Farrell, W. M., Delory, G. T., Angelopoulos, V., McFadden, J. P., Bonnell, J. W., Glassmeier, K. H., Plaschke, F., Roux, A., Ergun, R. E. (2012). Lunar precursor effects in the solar wind and terrestrial magnetosphere. *Journal of Geophysical Research: Space Physics*, *117*(5).
63. *** Carley, R. A., Whaler, K. A., Purucker, M. E., Halekas, J. S. (2012). Magnetization of the lunar crust. *Journal of Geophysical Research E: Planets*, *117*(8).
62. *** Fillingim, M. O., Lillis, R. J., England, S. L., Peticolas, L. M., Brain, D. A., Halekas, J. S., Paty, C., Lummerzheim, D., Bougher, S. W. (2012). On wind-driven electrojets at magnetic cusps in the nightside ionosphere of Mars. *Earth, Planets and Space*, *64*(2), 93-103.
61. * Poppe, A. R., Halekas, J. S., Delory, G. T., Farrell, W. M. (2012). Particle-in-cell simulations of the solar wind interaction with lunar crustal magnetic anomalies: Magnetic cusp regions. *Journal of Geophysical Research: Space Physics*, *117*(9).
60. * Halekas, J. S., Poppe, A., Delory, G. T., Farrell, W. M., Horányi, M. (2012). Solar wind electron interaction with the dayside lunar surface and crustal magnetic fields: Evidence for precursor effects. *Earth, Planets and Space*, *64*(2), 73-82.
59. * Farrell, W. M., Halekas, J. S., Killen, R. M., Delory, G. T., Gross, N., Bleacher, L. V., Krauss-Varben, D., Travnicek, P., Hurley, D., Stubbs, T. J., Zimmerman, M. I., Jackson, T. L. (2012). Solar-Storm/Lunar Atmosphere Model (SSLAM): An overview of the effort and description of the driving storm environment. *Journal of Geophysical Research E: Planets*, *117*(10).
58. *** Briggs, J. A., Brain, D. A., Cartwright, M. L., Eastwood, J. P., Halekas, J. S. (2011). A statistical study of flux ropes in the Martian magnetosphere. *Planetary and Space Science*, *59*(13), 1498-1505.
57. ** Sibeck, D. G., Angelopoulos, V., Brain, D. A., Delory, G. T., Eastwood, J. P., Farrell, W. M., Grimm, R. E., Halekas, J. S., Hasegawa, H., Hellinger, P., Khurana, K. K., Lillis, R. J., Øieroset, M., Phan, T. D., Raeder, J., Russell, C. T., Schriver, D., Slavin, J. A., Travnicek, P. M., Weygand, J. M. (2011). ARTEMIS science objectives. *Space Science Reviews*, *165*(1-4), 59-91.
56. **** Jackson, T. L., Farrell, W. M., Killen, R. M., Delory, G. T., Halekas, J. S., Stubbs, T. J. (2011). Discharging of roving objects in the lunar polar regions. *Journal of Spacecraft and Rockets*, *48*(4), 700-703.
55. ** Wiehle, S., Plaschke, F., Motschmann, U., Glassmeier, K. H., Auster, H. U., Angelopoulos, V., Mueller, J., Kriegel, H., Georgescu, E., Halekas, J., Sibeck, D. G., McFadden, J. P. (2011). First lunar wake passage of ARTEMIS: Discrimination of wake effects and solar wind fluctuations by 3D hybrid simulations. *Planetary and Space Science*, *59*(8), 661-671.
54. * Halekas, J. S., Delory, G. T., Farrell, W. M., Angelopoulos, V., McFadden, J. P., Bonnell, J. W., Fillingim, M. O., Plaschke, F. (2011). First remote measurements of lunar surface charging from ARTEMIS: Evidence for nonmonotonic sheath potentials above the dayside surface. *Journal of Geophysical Research: Space Physics*, *116*(7).
53. * Halekas, J. S., Angelopoulos, V., Sibeck, D. G., Khurana, K. K., Russell, C. T., Delory, G. T., Farrell, W. M., McFadden, J. P., Bonnell, J. W., Larson, D., Ergun, R. E., Plaschke, F., Glassmeier, K. H. (2011). First results from ARTEMIS, a new two-spacecraft lunar mission: Counter-streaming plasma populations in the lunar wake. *Space Science Reviews*, *165*(1-4), 93-107.
52. *** Louzada, K. L., Stewart, S. T., Weiss, B. P., Gattacceca, J., Lillis, R. J., Halekas, J. S. (2011). Impact demagnetization of the Martian crust: Current knowledge and future directions. *Earth and Planetary Science Letters*, *305*(3-4), 257-269.
51. * Halekas, J. S., Brain, D. A., Eastwood, J. P. (2011). Large-amplitude compressive "sawtooth" magnetic field oscillations in the Martian magnetosphere. *Journal of Geophysical Research: Space Physics*, *116*(7), 1-13.
50. *** Collier, M. R., Kent Hills, H., Stubbs, T. J., Halekas, J. S., Delory, G. T., Espley, J., Farrell, W. M., Freeman, J. W., Vondrak, R. (2011). Lunar surface electric potential changes associated with traversals through the Earth's foreshock. *Planetary and Space Science*, *59*(14), 1727-1743.
49. * Poppe, A., Halekas, J. S., Horányi, M. (2011). Negative potentials above the day-side lunar surface in the terrestrial plasma sheet: Evidence of non-monotonic potentials. *Geophysical Research Letters*, *38*(2).
48. * Halekas, J. S., Saito, Y., Delory, G. T., Farrell, W. M. (2011). New views of the lunar plasma environment. *Planetary and Space Science*, *59*(14), 1681-1694.
47. *** Stubbs, T. J., Glenar, D. A., Farrell, W. M., Vondrak, R. R., Collier, M. R., Halekas, J. S., Delory, G. T. (2011). On the role of dust in the lunar ionosphere. *Planetary and Space Science*, *59*(13), 1659-1664.
46. *** Farrell, W. M., Halekas, J. S., Stubbs, T. J., Delory, G. T., Killen, R. M., Hartle, R. E., Collier, M. R. (2011). Regarding the possible generation of a lunar nightside exo-ionosphere. *Icarus*, *216*(1), 169-172.

45. *** Zimmerman, M. I., Farrell, W. M., Stubbs, T. J., Halekas, J. S., Jackson, T. L. (2011). Solar wind access to lunar polar craters: Feedback between surface charging and plasma expansion. *Geophysical Research Letters*, *38*(19).
44. * Halekas, J.S., Bale, S.D., Mitchell, D.L., Lin, R.P. (2011). Correction to Electrons and magnetic fields in the lunar plasma wake. *Journal of Geophysical Research (Space Physics)*, *116*, A07228.
43. *** Brain, D., Barabash, S., Boesswetter, A., Bougher, S., Brecht, S., Chanteur, G., Hurley, D., Dubinin, E., Fang, X., Fraenz, M., Halekas, J., Harnett, E., Holmstrom, M., Kallio, E., Lammer, H., Ledvina, S., Liemohn, M., Liu, K., Luhmann, J., Ma, Y., Modolo, R., Nagy, A., Motschmann, U., Nilsson, H., Shinagawa, H., Simon, S., Terada, N. (2010). A comparison of global models for the solar wind interaction with Mars. *Icarus*, *206*(1), 139-151.
42. *** Farrell, W. M., Stubbs, T. J., Halekas, J. S., Killen, R. M., Delory, G. T., Collier, M. R., Vondrak, R. R. (2010). Anticipated electrical environment within permanently shadowed lunar craters. *Journal of Geophysical Research: Planets*, *115*(E3).
41. ** Brain, D. A., Baker, A. H., Briggs, J., Eastwood, J. P., Halekas, J. S., Phan, T. D. (2010). Episodic detachment of Martian crustal magnetic fields leading to bulk atmospheric plasma escape. *Geophysical Research Letters*, *37*(14).
40. * Halekas, J. S., Brain, D. A. (2010). Global distribution, structure, and solar wind control of low altitude current sheets at Mars. *Icarus*, *206*(1), 64-73.
39. * Halekas, J. S., Lillis, R. J., Lin, R. P., Manga, M., Purucker, M. E., Carley, R. A. (2010). How strong are lunar crustal magnetic fields at the surface?: Considerations from a reexamination of the electron reflectometry technique. *Journal of Geophysical Research: Planets*, *115*(E3).
38. *** Fillingim, M. O., Peticolas, L. M., Lillis, R. J., Brain, D. A., Halekas, J. S., Lummerzheim, D., Bougher, S. W. (2010). Localized ionization patches in the nighttime ionosphere of Mars and their electrodynamic consequences. *Icarus*, *206*(1), 112-119.
37. *** Øieroset, M., Brain, D. A., Simpson, E., Mitchell, D. L., Phan, T. D., Halekas, J. S., Lin, R. P., Acuña, M. H. (2010). Search for Phobos and Deimos gas/dust tori using in situ observations from Mars Global Surveyor MAG/ER. *Icarus*, *206*(1), 189-198.
36. *** Lillis, R. J., Purucker, M. E., Halekas, J. S., Louzada, K. L., Stewart-Mukhopadhyay, S. T., Manga, M., Frey, H. V. (2010). Study of impact demagnetization at Mars using Monte Carlo modeling and multiple altitude data. *Journal of Geophysical Research E: Planets*, *115*(7).
35. * Halekas, J.S., Eastwood, J.P., Brain, D.A., Phan, T.D., Øieroset, M., Lin, R.P. (2009). In situ observations of reconnection Hall magnetic fields at Mars: Evidence for ion diffusion region encounters. *Journal of Geophysical Research (Space Physics)*, *114*(A13), A11204.
34. * Halekas, J.S., Delory, G.T., Lin, R.P., Stubbs, T.J., Farrell, W.M. (2009). Lunar surface charging during solar energetic particle events: Measurement and prediction. *Journal of Geophysical Research (Space Physics)*, *114*, A05110.
33. * Halekas, J.S., Delory, G.T., Lin, R.P., Stubbs, T.J., Farrell, W.M. (2009). Lunar Prospector measurements of secondary electron emission from lunar regolith. *Planetary Space Science*, *57*, 78-82.
32. * Halekas, J.S., Brain, D.A., Lin, R.P., Luhmann, J.G., Mitchell, D.L. (2008). Distribution and variability of accelerated electrons at Mars. *Advances in Space Research*, *41*, 1347-1352.
31. * Halekas, J.S., Brain, D.A., Lin, R.P., Mitchell, D.L. (2008). Solar wind interaction with lunar crustal magnetic anomalies. *Advances in Space Research*, *41*, 1319-1324.
30. *** Farrell, W.M., Stubbs, T.J., Delory, G.T., Vondrak, R.R., Collier, M.R., Halekas, J.S., Lin, R.P. (2008). Concerning the dissipation of electrically charged objects in the shadowed lunar polar regions., *Geophys. Res. Lett., 35*, L19104.
29. * Halekas, J.S., Delory, G.T., Lin, R.P., Stubbs, T.J., Farrell, W.M. (2008). Lunar Prospector observations of the electrostatic potential of the lunar surface and its response to incident currents. *Journal of Geophysical Research (Space Physics)*, *113*, A09102.
28. *** Leblanc, F., Witasse, O., Lilensten, J., Frahm, R.A., Safaenili, A., Brain, D.A., Mouginot, J., Nilsson, H., Futaana, Y., Halekas, J., Holmström, M., Bertaux, J.L., Winningham, J.D., Kofman, W., Lundin, R. (2008). Observations of aurorae by SPICAM ultraviolet spectrograph on board Mars Express: Simultaneous ASPERA-3 and MARSIS measurements. *Journal of Geophysical Research (Space Physics)*, *113*, A08311.
27. * Halekas, J.S., Delory, G.T., Brain, D.A., Lin, R.P., Mitchell, D.L. (2008). Density cavity observed over a strong lunar crustal magnetic anomaly in the solar wind: A mini-magnetosphere? *Planetary Space Science*, *56*, 941-946.

26. * Mitchell, D.L., Halekas, J.S., Lin, R.P., Frey, S., Hood, L.L., Acuna, M.H., Binder, A. (2008). Global mapping of lunar crustal magnetic fields by Lunar Prospector., *Journal of Geophysical Research, 194*, 401-409.
25. *** Farrell, W.M., Stubbs, T.J., Halekas, J.S., Delory, G.T., Collier, M.R., Vondrak, R.R., Lin, R.P. (2008). Loss of solar wind plasma neutrality and affect on surface potentials near the lunar terminator and shadowed polar regions., *Geophys. Res. Lett., 35*, L05105.
24. ** Eastwood, J.P., Brain, D.A., Halekas, J.S., Drake, J.F., Phan, T.D., Øieroset, M., Mitchell, D.L., Lin, R.P., Acuna, M. (2008). Evidence for collisionless magnetic reconnection at Mars., *Geophys. Res. Lett., 35*, L02106.
23. *** Brain, D.A., Lillis, R.J., Mitchell, D.L., Halekas, J.S., Lin, R.P. (2007). Electron pitch angle distributions as indicators of magnetic field topology near Mars. *Journal of Geophysical Research (Space Physics)*, *112*, A09201.
22. *** Farrell, W.M., Stubbs, T.J., Vondrak, R.R., Delory, G.T., Halekas, J.S. (2007). Complex electric fields near the lunar terminator: The near-surface wake and accelerated dust., *Geophys. Res. Lett., 34*, L14201.
21. *** Fillingim, M.O., Peticolas, L.M., Lillis, R.J., Brain, D.A., Halekas, J.S., Mitchell, D.L., Lin, R.P., Lummerzheim, D., Bougher, S.W., Kirchner, D.L. (2007). Model calculations of electron precipitation induced ionization patches on the nightside of Mars., *Geophys. Res. Lett., 34*, L12101.
20. * Halekas, J.S., Delory, G.T., Brain, D.A., Lin, R.P., Fillingim, M.O., Lee, C.O., Mewaldt, R.A., Stubbs, T.J., Farrell, W.M., Hudson, M.K. (2007). Extreme lunar surface charging during solar energetic particle events., *Geophys. Res. Lett., 34*, L02111.
19. *** Stubbs, T.J., Halekas, J.S., Farrell, W.M., Vondrak, R.R. (2007). Lunar Surface Charging: A Global Perspective Using Lunar Prospector Data. *Dust in Planetary Systems*, *643*, 181-184.
18. * Halekas, J.S., Brain, D.A., Mitchell, D.L., Lin, R.P. (2006). Whistler waves observed near lunar crustal magnetic sources., *Geophys. Res. Lett., 33*, L22104.
17. *** Leblanc, F., Witasse, O., Winningham, J., Brain, D., Lilensten, J., Blelly, P.-L., Frahm, R.A., Halekas, J.S., Bertaux, J.L. (2006). Origins of the Martian aurora observed by Spectroscopy for Investigation of Characteristics of the Atmosphere of Mars (SPICAM) on board Mars Express. *Journal of Geophysical Research (Space Physics)*, *111*, A09313.
16. * Halekas, J.S., Brain, D.A., Lillis, R.J., Fillingim, M.O., Mitchell, D.L., Lin, R.P. (2006). Current sheets at low altitudes in the Martian magnetotail., *Geophys. Res. Lett., 33*, L13101.
15. *** Brain, D.A., Mitchell, D.L., Halekas, J.S. (2006). The magnetic field draping direction at Mars from April 1999 through August 2004., *Icarus, 182*, 464-473.
14. * Halekas, J.S., Brain, D.A., Mitchell, D.L., Lin, R.P., Harrison, L. (2006). On the occurrence of magnetic enhancements caused by solar wind interaction with lunar crustal fields., *Geophys. Res. Lett., 33*, L08106.
13. ** Brain, D.A., Halekas, J.S., Peticolas, L.M., Lin, R.P., Luhmann, J.G., Mitchell, D.L., Delory, G.T., Bougher, S.W., Acuna, M.H., Rème, H. (2006). On the origin of aurorae on Mars., *Geophys. Res. Lett., 33*, L01201.
12. *** Brain, D.A., Halekas, J.S., Lillis, R., Mitchell, D.L., Lin, R.P., Crider, D.H. (2005). Variability of the altitude of the Martian sheath., *Geophys. Res. Lett., 32*, L18203.
11. * Halekas, J.S., Bale, S.D., Mitchell, D.L., Lin, R.P. (2005). Electrons and magnetic fields in the lunar plasma wake. *Journal of Geophysical Research (Space Physics)*, *110*, A07222.
10. * Halekas, J.S., Lin, R.P., Mitchell, D.L. (2005). Large negative lunar surface potentials in sunlight and shadow., *Geophys. Res. Lett., 32*, L09102.
9. * Halekas, J.S., Lin, R.P., Mitchell, D.L. (2003). Inferring the scale height of the lunar nightside double layer., *Geophys. Res. Lett., 30*, 2117.
8. *** Richmond, N.C., Hood, L.L., Halekas, J.S., Mitchell, D.L., Lin, R.P., Acuna, M., Binder, A.B. (2003). Correlation of a strong lunar magnetic anomaly with a high-albedo region of the Descartes mountains., *Geophys. Res. Lett., 30*, 48-1.
7. * Halekas, J.S., Lin, R.P., Mitchell, D.L. (2003). Magnetic fields of lunar multi-ring impact basins. *Meteoritics and Planetary Science*, *38*, 565-578.
6. * Halekas, J.S., Mitchell, D.L., Lin, R.P., Hood, L.L., Acuna, M.H., Binder, A.B. (2002). Demagnetization signatures of lunar impact craters., *Geophys. Res. Lett., 29*, 23-1.
5. * Halekas, J.S., Mitchell, D.L., Lin, R.P., Hood, L.L., Acuna, M.H., Binder, A.B. (2002). Evidence for negative charging of the lunar surface in shadow., *Geophys. Res. Lett., 29*, 77-1.
4. *** Hood, L.L., Zakharian, A., Halekas, J., Mitchell, D.L., Lin, R.P., Acuna, M.H., Binder, A.B. (2001). Initial mapping and interpretation of lunar crustal magnetic anomalies using Lunar Prospector

magnetometer data., *Journal of Geophysical Research, 106*, 27825-27840.

3. * Halekas, J.S., Mitchell, D.L., Lin, R.P., Frey, S., Hood, L.L., Acuna, M.H., Binder, A.B. (2001). Mapping of crustal magnetic anomalies on the lunar near side by the Lunar Prospector electron reflectometer., *Journal of Geophysical Research, 106*, 27841-27852.
2. ** Whipple, E.C., Starr, D.L., Halekas, J.S., Scudder, J.D., Holdaway, R.D., Faden, J.B., Puhl-Quinn, P., Maynard, N.C., Russell, C.T. (1999). Magnetospheric electric fields from ion data., *Geophys. Res. Lett., 26*, 1561-1564.
1. *** Whipple, E.C., Halekas, J.S., Scudder, J.D., Paterson, W.R., Frank, L.A., Sheldon, R.B., Maynard, N.C., Weimer, D.R., Russell, C.T., Tsuruda, K., Hayakawa, H., Yamamoto, T. (1998). Identification of magnetospheric particles that travel between spacecraft and their use to help obtain magnetospheric potential distributions., *Journal of Geophysical Research, 103*, 93-102.

Refereed Book and Monograph Chapters

7. ** Farrell, W. M., Halekas, J. S., Horányi, M., Killen, R. M., Grava, C., Szalay, J. R., Benna, M., Clark, P. E., Collier, M. R., Colaprete, A., Deca, J., Elphic, R. C., Fatemi, S., Futaana, Y., Holmström, M., Hurley, D. M., Kramer, G. Y., Mahaffy, P. R., Nishino, M. N., Noble, S. K., Saito, Y., Poppe, A. R., Retherford, K. D., Wang, X., & Yokota, S. (2023), The Dust, Atmosphere, and Plasma at the Moon, *Reviews in Mineralogy and Geochemistry, 89*, 563.
6. *** Wieczorek, M. A., Weiss, B. P., Breuer, D., Cébron, D., Fuller, M., Garrick-Bethell, I., Gattacceca, J., Halekas, J. S., Hemingway, D. J., Hood, L. L., Laneuville, M., Nimmo, F., Oran, R., Purucker, M. E., Rückriemen, T., Soderlund, K. M., & Tikoo, S. M. (2023), Lunar Magnetism, *Reviews in Mineralogy and Geochemistry, 89*, 207.
5. ** Gaddis, L. R., Joy, K. H., Bussey, B. J., Carpenter, J. D., Crawford, I. A., Elphic, R. C., Halekas, J. S., Lawrence, S. J., & Xiao, L. (2023), Recent Exploration of the Moon: Science from Lunar Missions Since 2006, *Reviews in Mineralogy and Geochemistry, 89*, 1.
4. * Halekas, J. S., J. G. Luhmann, E. Dubinin, Y. Ma (2021), Induced Magnetospheres: Mars. *Space Physics and Aeronomy, Vol. 2, Magnetospheres in the Inner Solar System* (pp. 391-406), Ed. R. Maggiolo, N. Andres, H. Hasegawa, D.T. Welling, Y. Zhang, L. J. Paxton. Washington, D.C.: American Geophysical Union.
3. * Harada, Y., Halekas, J.S. (2016). Upstream Waves and Particles at the Moon. In *Low Frequency Waves in Space Plasmas, Geophysical Monograph Series*, *216*, 307-322. Washington, D.C.: American
2. Geophysical Union.
   * Halekas, J. S., Brain, D. A., Holmstrom, M. (2015). Moon's plasma wake. *Magnetotails in the Solar System* (pp. 149-168). Washington, D.C.: American Geophysical Union.
1. ** Brain, D., Halekas, J. S. (2012). Aurora in Martian mini magnetospheres. *Auroral Phenomenology and Magnetospheric Processes: Earth and Other Planets* (vol. 197, pp. 123-132). Washington D.C.: American Geophysical Union.

Ph.D. Thesis

1. Halekas, J.S. (2003). *The origins of lunar crustal magnetic fields*. University of California, Berkeley.

Technical Report

1. Halekas, J. S. (2019). BIFOCAL ELECTRON SENSOR FLIGHT OF OPPORTUNITY ON THE INVESTIGATION OF CUSP IRREGULARITIES-5 MISSION. *Science Mission Directorate Technology Highlights: 2018*. NASA.

Areas of Research Interest

Atmospheric escape from Mars and other unmagnetized bodies
Basic processes and sources of instabilities in plasma wakes
Charged particle measurement techniques
Composition and dynamics of tenuous exospheres
Magnetic reconnection
Near-surface plasma sheaths above the surface of airless bodies
Planetary magnetism
Planetary magnetospheres
Plasma interactions with sub-ion inertial scale magnetic fields

Plasma physics in the interplanetary medium and the environments of planets and moons
Solar wind kinetic physics
Space plasma instrumentation
Wave-particle interactions

Grants and Contracts

Funded

Jun 2022 – May 2026 *Investigating the Radial Evolution of the Interactions between Solar Wind Plasma, Macroscopic Structures, and Intermediate Frequency Waves*
Funded by University of Minnesota (prime sponsor is NASA). UI Award amount ($128,705.00) Jasper S Halekas (UI Institutional Lead).

Dec 2022 - Sep 2025 *MAVEN/SWIA Extended Mission 4*
Funded by University of Colorado (prime sponsor is NASA). UI Award amount ($954,674.00) Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Mar 2022 – Oct 2027 *HelioSwarm*
Funded by NASA - Subcontract through University of New Hampshire. Proposed UI award amount ($280,684.00). Jasper S Halekas (UI Institutional Lead and Instrument Scientist for Medium Class Explorer mission).

Oct 2018 - Sep 2025 *SWEAP Phase E*
Funded by Smithsonian Astrophysical Observatory (Prime Sponsor NASA). UI Award amount: ($536,967.00). Jasper S Halekas (UI Institutional Lead and Solar Probe Analyzer-Electrons Instrument Scientist).

Jan 2019 - Aug 2024 *TRACERS*
Funded by NASA. Investigator/s Craig Kletzing (Principal Investigator), Jasper S Halekas (Co-Investigator, Instrument Lead for Analyzer for Cusp Electrons, ~$4,000,000 of TRACERS funding).

Nov 2019 - Nov 2024 *LEADER*
Funded by NASA/GSFC. UI Award amount: ($349,855.00). Jasper S Halekas (UI Institutional Lead and Plasma Team Lead).

Jul 2021 - Jul 2024 *Lunar Vertex*
Funded by NASA - Subcontract through Johns Hopkins Applied Physics Laboratory. Proposed UI award amount ($163,589.00). Jasper S Halekas (UI Institutional Lead and Deputy Principal Investigator for landed lunar mission).

Jan 2020 - Jan 2024 *Flows, Fields, and Forces in the Magnetospheres of Unmagnetized Bodies*
Funded by NASA. UI Award amount: ($508,950.00). Jasper S Halekas (Principal Investigator for grant).

Nov 2019 – Nov 2022 *Hybrid Fluid-Kinetic Model of the Processes in the Moon's Plasma Environment*
Funded by University of Maryland Baltimore County (prime sponsor is NASA). UI Award amount ($154,785.00), Jasper S Halekas (UI Institutional Lead and Co-Investigator).

Nov 2019 - Nov 2023 *A Reexamination of the Composition, Structure, and Variability of the Lunar Exosphere Utilizing ARTEMIS Observations*
Funded by NASA. UI Award amount: ($361,095.00). Jasper S Halekas (Principal Investigator for grant).

Oct 2019 - Dec 2022 *MAVEN/SWIA Extended Mission 4*
Funded by University of Colorado (prime sponsor is NASA). UI Award amount ($874,997.00) Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Jun 2019 - Apr 2023 *ACES-II*
Funded by NASA Heliophysics Technology and Instrument Development Program. Total UI Award amount: ($3,476,266.00). Investigator/s Scott Bounds (Principal Investigator), Jasper S Halekas (Co-Investigator).

Oct 2017 - Sep 2023 *THEMIS*
Funded by University of Iowa. UI Award amount: ($360,041.00). Investigator/s Jasper S Halekas (UI Institutional Lead and Acting Deputy Principal Investigator for THEMIS-ARTEMIS mission until Dec. 2022).

Sep 2016 - Sep 2021 *Hydrogen Precipitation in Planetary Atmospheres*
Funded by NASA Solar System Workings Program (via subcontract to U.C. Berkeley). UI Award amount: ($135,730.00). Jasper S Halekas (UI Institutional Lead).

Mar 2018 – Mar 2022 *Probing Particle Energization in Heliospheric Plasmas using Field-Particle Correlations*
Funded by NASA. UI Award Amount ($317,037.57). Investigator/s Gregory Howes (Principal Investigator), Jasper S Halekas (Co-Investigator)

Aug 2018 – Aug 2021 *Using Field-Particle Correlations to Explore Particle Energization in MMS Magnetosheath Observations*
Funded by NASA. UI Award Amount ($323,753.00). Investigator/s Gregory Howes (Principal Investigator), Jasper S Halekas (Co-Investigator)

Jun 2018 – Jul 2021 *Determining Particle Energization by the Dissipation of Turbulence in Heliospheric Plasmas*
Funded by NASA. UI Award Amount ($152,279.00). Investigator/s Gregory Howes (Principal Investigator), Jasper S Halekas (Co-Investigator)

Sep 2018 – Sep 2020 *Proposal for Continued Participation in the Mars Express Extended Mission; FY2019 (Phase E) & FY2020 (Phase F): MARSIS Radar Sounder Investigation*
Funded by Jet Propulsion Laboratory (prime sponsor is NASA). UI Award Amount ($803,000.00). Jasper S Halekas (UI Institutional Lead, Co-Investigator and Lead US Investigator for MARSIS).

May 2018 - May 2020 *ICI-5 Bifocal Flight Opportunity*
Funded by NASA Heliophysics Technology and Instrument Development Program. UI Award amount: ($505,779.00). Jasper S Halekas (Principal Investigator for grant).

Feb 2016 - Feb 2020 *BIFOCAL: A next-generation electron instrument for solar wind monitoring and high phase space resolution*
Funded by NASA Heliophysics Technology and Instrument Development Program. UI Award amount: ($608,853.00). Jasper S Halekas (Principal Investigator for grant).

Oct 2018 - Sep 2019 *MAVEN/SWIA Extended Mission 3*
Funded by University of Colorado (prime sponsor is NASA). UI Award amount: ($275,000.00). Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Mar 2015 - Mar 2019 *Dynamic Response of the Environment at Asteroids, the Moon, and the moons of Mars (DREAM^2), NASA SSERVI*
Funded by NASA/GSFC. UI Award amount: ($363,000.00). Jasper S Halekas (UI Institutional Lead and Plasma Team Lead).

Sep 2017 - Sep 2018 *TRACERS Phase A Study*
Funded by NASA Heliophysics Small Explorers. Total UI Award amount: ($1,250,000.00). Investigator/s Craig Kletzing (Principal Investigator), Jasper S Halekas (Co-Investigator and Analyzer for Cusp Electrons Instrument Lead).

Oct 2016 - Sep 2018 *MAVEN/SWIA Extended Mission 2*
Funded by University of Colorado (prime sponsor is NASA). UI Award Amount ($225,000.00), Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Aug 2014 - Aug 2018 *SPAN-Electrons - SWEAP Phase C/D*
Funded by University of California, Berkeley (prime sponsor is NASA). UI Award amount: ($167,818.00). Jasper S Halekas (UI Institutional Lead and Solar

Probe Analyzer-Electrons Instrument Scientist).

Apr 2015 - Apr 2018 *Investigating the Interaction of Solar Wind Protons with the Moon using ARTEMIS data*
Funded by NASA Lunar Data Analysis Program (via subcontract to U.C. Berkeley). UI Award amount: ($89,964.00). Jasper S Halekas (UI Institutional Lead).

Sep 2017 - Jan 2018 *PRISM: Phobos Regolith Ion Sample Mission*
Funded by NASA PSDS3 (via subcontract to NASA Goddard Spaceflight Center). UI Award Amount ($50,040.00). Jasper S Halekas (UI Institutional Lead).

Aug 2014 - Aug 2017 *Start-Up Funding for Jasper Halekas*
Funded by University of Iowa Start-Up. Award amount: ($509,986.00).

Dec 2015 - Dec 2016 *HALO NNX16AD03G*
Funded by NASA/GSFC. UI Award amount: ($50,000.00). Jasper S Halekas (UI Institutional Lead).

Oct 2015 - Sep 2016 *MAVEN/SWIA Extended Mission*
Funded by University of California, Berkeley (prime sponsor is NASA). UI Award amount: ($210,000.00). Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Aug 2014 - Mar 2016 *Solar Wind Ion Analyzer (SWIA) - MAVEN Phase E*
Funded by University of Colorado (prime sponsor is NASA). UI Award amount: ($127,437.00). Jasper S Halekas (UI Institutional Lead and Solar Wind Ion Analyzer Instrument Lead).

Sep 2014 - Sep 2015 *Quantifying the Links Between the Space Plasma Environment and the Lunar Dusty Atmosphere: A Virtual Plasma Instrument for LADEE NNX14AR24G*
Funded by NASA. UI Award amount: ($152,815.76). Jasper S Halekas (Principal Investigator for grant).

Currently Under Review

None

Not Funded

Jan 2024 – Dec 2026 *Gated Electron and Negative Ion Experiment (GENIE): Diagnosing Lunar Surface Interactions by Quantifying Electron and Negative Ion Emission*
Funded by NASA. Proposed award amount ($2,272,900.00). Jasper S Halekas (Principal Investigator).

Apr 2023 – Apr 2026 *Spatial and Temporal Variations of the Shape of He+ PUI Focusing Cone*
Funded by NASA - Subcontract through Southwest Research Institute. Proposed UI award amount ($108,220.00). Jasper S Halekas (UI Institutional Lead).

Jun 2022 – May 2026 *Plasma Observatory for Lunar Exploration*
Funded by NASA – Subcontract through Goddard Space Flight Center. Proposed UI award amount ($128,810.00). Jasper S Halekas (UI Institutional Lead).

2022-2027 *Valkyries: Shining New Light on the Aurora*
Funded by NASA Explorer Program. Jasper S Halekas (Co-Investigator and Deputy Instrument Lead).

2022-2027 *Energetic Particle Precipitation Impacts and Coupling (EPPIC)*
Funded by NASA Explorer Program. Jasper S Halekas (Co-Investigator and Instrument Lead).

2015-2034 *Europa Plasma Environment Experiment*
Funded by NASA Europa Instrument Investigations. Jasper S Halekas (Co-Investigator and Instrument Lead).

Sep 2021 -Aug 2026 *LunaTICS: Lunar-Terrestrial Ion outflow Compositional Studies*
Funded by NASA – Subcontract through U.C. Berkeley. Jasper S Halekas (UI Institutional Lead).

Jan 2020 - Dec 2022 *HALOS*
Funded by NASA Development and Advancement of Lunar Instrumentation

Program. Investigator/s Jasper S Halekas (Co-Investigator and UI Institutional Lead).

Sep 2018 - Aug 2021 *A Reexamination of the Composition, Structure, and Variability of the Lunar Exosphere Utilizing ARTEMIS Observations*
Funded by NASA Lunar Data Analysis Program. Investigator/s Jasper S Halekas (Principal Investigator). – Resubmitted and Later Funded

Sep 2018 - Aug 2021 *Flows, Fields, and Forces in the Magnetospheres of Unmagnetized Bodies*
Funded by NASA Solar System Workings Program. Investigator/s Jasper S Halekas (Principal Investigator). – Resubmitted and Later Funded

Jan 2018 - Jan 2021 *Cold Ion Composition Experiment*
Funded by NASA Heliophysics Technology and Instrument Development Program. Investigator/s Jasper S Halekas (Principal Investigator).

Aug 2019 - Oct 2020 *Magnetic Explorer Phase A Study*
Funded by University of Colorado (prime sponsor is NASA). Investigator/s Jasper S Halekas (Co-Investigator, UI Institutional Lead, and Instrument Lead for Solar Wind Sensor).

Feb 2017 - Jun 2020 *Volatile Ion Composition Experiment*
Funded by NASA (via subcontract to U.C. Berkeley). Investigator/s Jasper S Halekas (Co-Investigator).

Jul 2017 - Jun 2020 *Pulsed Ion Composition Analyzer*
Funded by NASA Planetary Instrument Concepts for the Advancement of Solar System Observations. Investigator/s Jasper S Halekas (Principal Investigator).

Jun 2017 - Jun 2020 *Interpretation and Characterization of the ARTEMIS observations of solar wind interactions with the lunar surface, magnetic anomalies, and exosphere*
Funded by NASA Lunar Data Analysis Program (via subcontract to Space Sciences Institute). Investigator/s Jasper S Halekas (Co-Investigator and UI Institutional Lead).

Mar 2017 - Mar 2020 *Earth, Moon, and Mars: Laboratories for Foreshock Processes*
Funded by NASA Heliophysics Supporting Research Program. Investigator/s Jasper S Halekas (Principal Investigator).

Jul 2016 - Jun 2019 *Pulsed Ion Composition Analyzer*
Funded by NASA Planetary Instrument Concepts for the Advancement of Solar System Observations. Investigator/s Jasper S Halekas (Principal Investigator).

Jul 2016 - Jun 2019 *ACES-II*
Funded by NASA Heliophysics Technology and Instrument Development Program. Investigator/s Jasper S Halekas (Co-Investigator), Scott Bounds (Principal Investigator). – Resubmitted and Later Funded

Apr 2016 - Mar 2019 *Identifying the Kinetic Physics of Turbulent Dissipation in the Solar Wind*
Funded by NASA Heliophysics Supporting Research Program. Investigator/s G Howes (Principal Investigator), Jasper S Halekas (Co-Investigator). – Resubmitted and Later Funded

Mar 2016 - Mar 2019 *Earth, Moon, and Mars: Laboratories for Foreshock Processes*
Funded by NASA Heliophysics Supporting Research Program. Investigator/s Jasper S Halekas (Principal Investigator).

Feb 2016 - Jan 2019 *The Signatures of Landau Damping in the Velocity Distributions of Solar Wind Plasma*
Funded by NASA Heliophysics Guest Investigator. Investigator/s G Howes (Principal Investigator), Jasper S Halekas (Co-Investigator). – Resubmitted and Later Funded

May 2015 - May 2018 *Pulsed Ion Composition Analyzer*
Funded by NASA Planetary Instrument Concepts for the Advancement of Solar System Observations. Investigator/s Jasper S Halekas (Principal Investigator).

Apr 2015 - Mar 2018 *The Kinetic Signature of Turbulent Dissipation in the Solar Wind*
Funded by NASA Heliophysics Supporting Research Program. Investigator/s G

Howes (Principal Investigator), Jasper S Halekas (Co-Investigator). – Resubmitted and Later Funded

Invited Lectures and Conference Presentations

International – Oral Invited

2023 Lunar Plasma Interdisciplinary Network, *THEMIS-ARTEMIS*, Bjorkliden, Sweden, Presenters/Authors: Halekas, Jasper S

2023 Deep Space Sciences Conference, *The Mars-Solar Wind Interaction Under Weak Solar Wind Conditions*, China (remote), Presenters/Authors: Halekas, Jasper S

2022 American Geophysical Union Fall Meeting, *Radial Evolution and Acceleration of the Solar Wind*, Chicago, Illinois, Presenters/Authors: Halekas, Jasper S

2022 COSPAR, *Utilizing Pickup Ion Measurements to Probe the Lunar Exosphere,* Athens, Greece, Presenters/Authors: Halekas, Jasper S

2021 Parker One Conference, *Electrons in the Near-Sun Environment*, Virtual, Presenters/Authors: Halekas, Jasper S

2021 COSPAR, *Electron Energetics in the Young Solar Wind*, Australia (Virtual), Presenters/Authors: Halekas, Jasper S

2019 American Geophysical Union Fall Meeting, *Space Weather Impacts at Unmagnetized Bodies*, American Geophysical Union, San Francisco, California, United States, Presenters/Authors: Halekas, Jasper S

2018 American Geophysical Union Fall Meeting, *Boundary Layer Asymmetries and Instabilities at Mars*, American Geophysical Union, Washington, District of Columbia, United States, Presenters/Authors: Halekas, Jasper S

2018 American Geophysical Union Fall Meeting, *Observations of Precipitating Solar Wind Hydrogen in the Martian Ionosphere*, American Geophysical Union, Washington, District of Columbia, United States, Presenters/Authors: Halekas, Jasper; Student Presenters/Authors: Henderson, Sarah

2018 American Geophysical Union Fall Meeting, *The influence of solar wind and interplanetary magnetic field conditions on ultra-low frequency waves and reflected ions near the Moon*, American Geophysical Union, Washington, District of Columbia, United States, Presenters/Authors: Halekas, Jasper; Student Presenters/Authors: Howard, Stephanie

2018 Comparative Aeronomy Symposium, *Momentum Transfer and Boundary Layer Processes at Mars*, ESTEC, Noordwijk, Netherlands, Presenters/Authors: Halekas, Jasper S

2018 Fundamental Physical Processes in Solar-Terrestrial Research and Their Relevance to Planetary Physics, *Momentum Transfer Processes at Unmagnetized Planets and Moons*, Kailua-Kona, Hawaii, Presenters/Authors: Halekas, Jasper S

2017 Asia Oceania Geosciences Society Annual Meeting, *Solar wind interaction with the Moon*, Asia Oceania Geosciences Society, Singapore, Presenters/Authors: Halekas, Jasper S

2017 Mars Aeronomy Conference, *The Magnetosphere and Space Environment of Mars*, Boulder, Colorado, United States, Presenters/Authors: Halekas, Jasper S

2017 The Dust, Atmosphere, and Plasma Environment of the Moon and Small Bodies, *The Plasma Environment of the Moon*, Boulder, Colorado, United States, Presenters/Authors: Halekas, Jasper S

2016 American Geophysical Union Fall Meeting, *A case study of right hand polarized waves in the lunar plasma environment*, American Geophysical Union, San Francisco, California, United States, Presenters/Authors: Halekas, Jasper; Student Presenters/Authors: Howard, Stephanie

2016 Lunar Exploration Analysis Group, *ARTEMIS Mission Update*, Laurel, Maryland, United States, Presenters/Authors: Halekas, Jasper S

2016 American Geophysical Union Fall Meeting, *Kinetic Plasma Interactions Between the Solar Wind and Lunar Magnetic Fields*, American Geophysical Union, San Francisco, California, United States, Presenters/Authors: Halekas, Jasper S

2016 Corsica Lunar Paleomagnetism Workshop, *What can electron reflectometry tell us about lunar magnetism*, Corsica, Italy, Presenters/Authors: Halekas, J S

2012 39th European Physical Society Conference on Plasma Physics/16th International Congress on Plasma Physics, *Results from the ARTEMIS mission,* Presenters/Authors: Halekas, J S

2006 COSPAR Meeting, *Comparative mini-magnetospheres: Moon and Mars*, Beijing, China, Presenters/Authors: Halekas, J S

2006 COSPAR Meeting, *Origin and expected variability of Martian Aurorae*, Beijing, China, Presenters/Authors: Halekas, J S

International – Poster Invited

2022 American Geophysical Union Fall Meeting, *Sources of Ions in the Near-Mars Environment*, Chicago, Illinois, Presenters/Authors: Halekas, Jasper S

International - Seminar

2021 New York University Abu Dhabi Seminar, *The Mars Hydrogen Cycle: Precipitation, Escape, and Aurora*, Abu Dhabi (Virtual), Presenters/Authors: Halekas, J S

2020 Taiwan Lunar Workshop, *The Plasma Environment of the Moon*, Taiwan (Virtual), Presenters/Authors: Halekas, J S

2018 IKI (Russian Space Research Institute) Seminar, *The Mars-Solar Wind Interaction Observed by MAVEN*, Moscow, Russia, Presenters/Authors: Halekas, J S

2018 IKI (Russian Space Research Institute) Seminar, *The Moon: A Natural Laboratory for Charged Particle Interactions with Small-Scale Magnetic Fields*, Moscow, Russia, Presenters/Authors: Halekas, J S

2014 Lunar Workshop, *Plasma interactions with small-scale magnetic fields: Current understanding and unsolved problems*, Kyung-Hee University, Presenters/Authors: Halekas, J S

2010 Center for Space Science and Applied Research Seminar, *Fundamental plasma physics in the Martian magnetotail and boundary layer*, Beijing, China, Presenters/Authors: Halekas, J S

2010 Center for Space Science and Applied Research Seminar, *The Lunar Wake: Current understanding and first results from ARTEMIS*, Beijing, China, Presenters/Authors: Halekas, J S

2009 JAXA/ISAS Seminar, *Lunar electric fields: The view from Lunar Prospector*, Tokyo, Japan, Presenters/Authors: Halekas, J S

National - Colloquium

2021 University of Colorado Astrophysics and Planetary Science Colloquium*, Electron Physics in the Young Solar Wind: New Results from the Parker Solar Probe*, Department of Astrophysics and Planetary Science, University of Colorado, Presenters/Authors: Halekas, Jasper S

2016 Kansas University Physics Colloquium, *A Physics Laboratory in the Sky: Lunar Magnetic Fields*, Lawrence, Kansas, United States, Presenters/Authors: Halekas, J S

2016 UCLA Earth Planetary and Space Science Colloquium, *Dynamic Mars: First results from MAVEN,* Presenters/Authors: Halekas, J S

2014 UNH Physics Colloquium, *The lunar wake: A natural plasma physics laboratory,* Presenters/Authors: Halekas, J S

2014 University of Iowa Physics and Astronomy Colloquium, *The lunar wake: A natural plasma physics laboratory,* Presenters/Authors: Halekas, J S

2006 Space Sciences Laboratory Colloquium, *Martian Aurora,* Presenters/Authors: Halekas, J S

National – Oral Invited

2023 Parker Solar Probe Science Working Group, *Do we know how the solar wind is accelerated?* Laurel, MD (remote), Presenters/Authors: Halekas, J S

2015 Lunar and Planetary Science Conference, *MAVEN observations of the Martian magnetosphere and its response to solar wind drivers*, Houston, Texas, United States, Presenters/Authors: Halekas, J S

2013 Lunar Science Forum, *ARTEMIS: Summary of new science at the Moon,* Presenters/Authors: Halekas, J S

2012 Dust, Atmosphere and Plasma: Moon and Small Bodies, *ARTEMIS and the Moon's Sphere of Influence,* Presenters/Authors: Halekas, J S

2012 Cluster-THEMIS Workshop, *ARTEMIS observations of pickup ions around the Moon,* Presenters/Authors: Halekas, J S

2012 LEAG, *ARTEMIS: Results from the first year,* Presenters/Authors: Halekas, J S

2012 Lunar Science Forum, *First results from the ARTEMIS mission,* Presenters/Authors: Halekas, J S

2010 Lunar Dust Atmosphere and Plasma Workshop, *Lunar plasma and exospheric science from ARTEMIS,* Presenters/Authors: Halekas, J S

2007 Workshop on science associated with the lunar exploration architecture, *Determining lunar crustal magnetic fields and their origin,* Presenters/Authors: Halekas, J S

2007 American Geophysical Union Spring Meeting, *Global vs. local mini-magnetospheres: Differences and similarities,* Presenters/Authors: Halekas, J S

2005 American Geophysical Union Fall Meeting, *Solar wind interaction with the lunar environment,* Presenters/Authors: Halekas, J S

National - Seminar

2023 Parker Solar Probe Theory Telecon, *Solar Wind Acceleration: Radial Evolution and Energy Sources*, Virtual, Presenters/Authors: Halekas, Jasper S

2023 LuSEE Weekly Seminar, *Plasma Physics at the Moon*, Virtual, Presenters/Authors: Halekas, J S

2022 Magnetosphere Online Seminar Series, *Plasma Physics at the Moon*, Virtual, Presenters/Authors: Halekas, J S

2020 Minnesota Space Physics Seminar*, Electron Physics in the Young Solar Wind: New Results from the Parker Solar Probe*, Department of Physics, University of Minnesota, Presenters/Authors: Halekas, Jasper S

2020 Parker Solar Probe Theory Telecon, *Electrons in the Young Solar Wind,* Presenters/Authors: Halekas, Jasper S

2019 Space Environment Center, *The Lunar Space Environment as Observed by ARTEMIS*, NASA Marshall Space Flight Center, Presenters/Authors: Halekas, Jasper S

2018 Laboratory for Astrophysics and Space Physics Seminar, *Escape!*, University of Colorado, Boulder, Colorado, Presenters/Authors: Halekas, Jasper S

2016 Minnesota Space Physics Seminar, *Dynamic Mars: First results from MAVEN,* Presenters/Authors: Halekas, J S

2014 NASA Headquarters Brownbag Seminar, *ARTEMIS explores the Lunar Environment,* Presenters/Authors: Halekas, J S

2014 University of Michigan Atmospheric Oceanic and Space Sciences Seminar, *ARTEMIS explores the Lunar Environment,* Presenters/Authors: Halekas, J S

2014 University of Iowa Astronomy and Space Physics Seminar, *Lunar magnetic fields and their "shocking" effects on the surfaces and space environment,* Presenters/Authors: Halekas, J S

2014 UNH Space Physics Seminar, *Plasma physics in the Martian magnetosphere: A view towards MAVEN,* Presenters/Authors: Halekas, J S

2014 University of Iowa Plasma Physics Seminar, *Plasma physics in the Martian magnetosphere: A view towards MAVEN,* Presenters/Authors: Halekas, J S

2014 American Physical Society Prairie Section Plenary, *Small but surprising: The curious magnetic fields of the Moon,* Presenters/Authors: Halekas, J S

2013 UCLA Space Physics Seminar, *Ions from the Moon: Sources and implications,* Presenters/Authors: Halekas, J S

2013 U.C. Santa Cruz Earth and Planetary Sciences Seminar, *The tenuous lunar exosphere: A view from ARTEMIS on the eve of LADEE,* Presenters/Authors: Halekas, J S

2012 ARTEMIS Science Working Team, *ARTEMIS observations of pickup ions: Tying space plasma data to the surface and exosphere* Presenters/Authors: Halekas, J S

2012 Lunar and Planetary Institute Seminar, *First results from ARTEMIS: The Moon's sphere of influence,* Presenters/Authors: Halekas, J S

2012 NLSI Director's Seminar, *Using ARTEMIS observations to connect the space plasma environment to the surface and exosphere,* Presenters/Authors: Halekas, J S

2011 U.C. Berkeley Space Physics Seminar, *Lunar Precursor Effects,* Presenters/Authors: Halekas, J S

2010 UCLA Earth and Space Sciences Seminar, *The lunar plasma wake: Waiting for ARTEMIS,* Presenters/Authors: Halekas, J S

2009 U.C. Berkeley Space Physics Seminar, *Space physics in the dynamic lunar environment,* Presenters/Authors: Halekas, J S

2009 SETI Institute, *The dynamic lunar environment* Presenters/Authors: Halekas, J S

2008 University of Washington Earth and Space Sciences Research Seminar, *Lunar surface charging: Lunar Prospector Observations,* Presenters/Authors: Halekas, J S

2008 University of Washington Earth and Space Sciences Seminar, *The enigma of lunar magnetism,* Presenters/Authors: Halekas, J S

2000 California Institute of Technology Geological & Planetary Sciences Seminar, *Lunar crustal magnetism: New results from Lunar Prospector,* Presenters/Authors: Halekas, Jasper S

Regional - Symposium

2011 Bay Area Consortium for Heliophysics Symposium, *Evidence for reconnection at Mars,* Presenters/Authors: Halekas, J S

Regional - Colloquium

2020 Truman State University, *Diving Into the Sun with the Parker Solar Probe*, Truman State University, Kirksville, Missouri, Presenters/Authors: Halekas, Jasper S

University - Colloquium

2018 University of Iowa Physics and Astronomy Colloquium, *The Great Escape!,* Presenters/Authors: Halekas, J S

University - Seminar

2023 University of Iowa Astronomy and Space Physics Seminar, *Radial Evolution and Acceleration of the Solar Wind: Parker Solar Probe Results*, Presenters/Authors: Halekas, J S

2019 University of Iowa Astronomy and Space Physics Seminar, *The Young Solar Wind: First Results from the Parker Solar Probe,* Presenters/Authors: Halekas, J S

2017 University of Iowa Astronomy and Space Physics Seminar, *The Mars Hydrogen Cycle: Precipitation, Escape, and Aurora,* Presenters/Authors: Halekas, J S

2016 University of Iowa Astronomy and Space Physics Seminar, *Blowin' in the wind: First results from the MAVEN mission,* Presenters/Authors: Halekas, J S

Student Presentations

2023 Henderson, S. (2023), *Precipitating Solar Wind Hydrogen at Mars*, Seminar, Montana State University.

2023 Fruchtman, J., Halekas, J. S., & Gruesbeck, J. (2023), *Refined Analysis of Martian Magnetosheath Structure*, AGU Fall Meeting Abstracts, 2023, P43G-3356.

2023 Nair, R., Halekas, J. S., Whittlesey, Larson, D. E., Livi, R., Berthomier, M., Kasper, J., Case, A. W., Stevens, M. L., Bale, S. D., MacDowall, R. J., & Pulupa, M. (2023), *Switchbacks in the Young Solar Wind: Electron Evolution Observed from Parker's First Ten Encounters Inside Switchbacks*, AGU Fall Meeting Abstracts, 2023, SH31D-3008.

2023 Henderson, S., Halekas, J., Espley, J., & Elrod, M. (2023), *Influence of Magnetic Fields on Precipitating Solar Wind Hydrogen at Mars*, EGU General Assembly Conference Abstracts, EGU-985.

2022 Fruchtman, J., Halekas, J. S., & Gruesbeck, J. (2022), *Seasonal invariance of the Martian Bow Shock structure*, AGU Fall Meeting Abstracts, 2022, SM32A-69.

2022 Nair, R., Halekas, J. S., Whittlesey, P. L., Larson, D. E., Livi, R., Berthomier, M., Kasper, J., Case, A. W., Stevens, M. L., Bale, S. D., MacDowall, R. J., & Pulupa, M. (2022), *Switchbacks in the Young Solar Wind: Electron Evolution Observed inside*

Switchbacks between 0.125 AU and 0.25 AU., AGU Fall Meeting Abstracts, 2022, SH32E-1808.

2022 Henderson, S., Halekas, J. S., Mitchell, D. L., & Mazelle, C. X. (2022), *Characterizing Energy Spectra of Precipitating Solar Wind H+ and H- in the Martian Atmosphere*, AGU Fall Meeting Abstracts, 2022, P25E-2144.

2021 Fruchtman, J., Halekas, J., & Gruesbeck, J. (2021), *Analysis on the dependence of the Martian Bow Shock on Seasonal and Solar Wind Variations*., AGU Fall Meeting Abstracts, 2021, SM55C-1794.

2021 Nair, R., Halekas, J., Whittlesey, P., Larson, D., Livi, R., Berthomier, M., Kasper, J., Case, A., Stevens, M., Bale, S., MacDowall, R., & Pulupa, M. (2021), *Switchbacks in the Young Solar Wind: Electron Evolution Observed inside Switchbacks between 0.125 AU and 0.25 AU.*, AGU Fall Meeting Abstracts, 2021, SH45A-2345.

2021 Peters, M., & Halekas, J. (2021), *Examining Electrostatic Waves at Harmonics of the Electron Cyclotron Frequency at the Moon*, AGU Fall Meeting Abstracts, 2021, P55E-1989.

2020 Howard, S. K., Halekas, J. S., Farrell, W. M., McFadden, J. P., & Glassmeier, K. H. (2020), *Characteristics of Ultra Low Frequency Plasma Waves Near the Moon*, AGU Fall Meeting Abstracts, 2020, U008-06.

2020 Andreone, G. D., Halekas, J. S., & Mitchell, D. (2020), *Using Electron Measurements from MAVEN to study the Magnetosheath of Mars*, AGU Fall Meeting Abstracts, 2020, SM053-0007.

2019 McGinnis, D., Halekas, J. S., Whittlesey, P. L., Larson, D. E., Kasper, J. C., Case, A. W., Korreck, K. E., Livi, R., Stevens, M. L., Bale, S. D., Bonnell, J. W., Dudok de Wit, T., Goetz, K., Harvey, P., MacDowall, R. J., Malaspina, D., & Pulupa, M. (2019), *Measurement of Electron Temperature Anisotropy to within 35 Rs*, AGU Fall Meeting Abstracts, 2019, SH12A-05.

2019 Kistler, M., & Halekas, J. S. (2019), *Location Analysis of ARTEMIS probes during Lunar events in the Earth's Magnetosphere*, AGU Fall Meeting Abstracts, 2019, SM33F-3286.

2019 Howard, S. K., Halekas, J. S., Farrell, W. M., McFadden, J. P., & Glassmeier, K. H. (2019), *Effects of the Lunar Plasma Environment on Reflected Ion Distributions and the Impact on Ultra Low Frequency Wave Generation*, AGU Fall Meeting Abstracts, 2019, SM33F-3285.

2018 McGinnis, D. J., Halekas, J., Larson, D., Whittlesey, P., & Kasper, J. (2018), *Correcting PSP Electron Measurements for the Effects of Spacecraft Electrostatic and Magnetic Fields*, Solar Heliospheric and INterplanetary Environment (SHINE 2018), 178.

2018 McGinnis, D., Halekas, J. S., Larson, D. E., Whittlesey, P. L., & Kasper, J. C. (2018), *Correcting PSP/SPAN VDF Measurements for Spacecraft Charging and B-Field Effects*, AGU Fall Meeting Abstracts, 2018, SH51B-2823.

2018 Howard, S. K., Halekas, J. S., Farrell, W. M., McFadden, J. P., & Glassmeier, K. H. (2018), *The Influence of Solar Wind and Interplanetary Magnetic Field Conditions on Ultra-Low Frequency Waves and Reflected Ions Near the Moon*, AGU Fall Meeting Abstracts, 2018, SM11A-06.

2018 Andreone, G. D., & Halekas, J. S. (2018), *Investigating precipitating cusp electrons using Bifocal, a next generation electrostatic analyzer*, AGU Fall Meeting Abstracts, 2018, SH41D-3665.

2018 Henderson, S., Halekas, J. S., & Lillis, R. J. (2018), *Observations of Precipitating Solar Wind Hydrogen in the Martian Ionosphere*, AGU Fall Meeting Abstracts, 2018, P54C-03.

2017 McGinnis, D., Halekas, J. S., Larson, D. E., Whittlesey, P. L., & Kasper, J. C. (2017), *Correcting PSP electron measurements for the effects of spacecraft electrostatic and magnetic fields*, AGU Fall Meeting Abstracts, 2017, SH23D-2696.

2017 Howard, S. K., Halekas, J. S., Harada, Y., Farrell, W. M., McFadden, J. P., & Glassmeier, K. H. (2017), *Polarization Statistics on 0.01 Hz Waves in the Lunar Plasma Environment, AGU Fall Meeting Abstracts*, 2017, SM33D-2696.

2016	Andreone, G. D., & Halekas, J. S. (2016), *Bifocal: A Multifunctional, Next Generation Electrostatic Analyzer*, AGU Fall Meeting Abstracts, SM51A-2462.
2016	Howard, S. K., Halekas, J. S., Farrell, W. M., McFadden, J. P., Glassmeier, K. H., & Fruehauff, D. (2016), *Low Frequency Waves and Reflected Ions in the Lunar Plasma Environment*, AGU Fall Meeting Abstracts, SM34A-02.

SERVICE

Profession

2023	The Astrophysical Journal, Publications, Reviewed one manuscript
2023	Space Science Reviews, Publications, Reviewed one manuscript
2023	Journal of Geophysical Research, Publications, Reviewed two manuscripts
2023	Astronomy and Astrophysics, Publications, Reviewed two manuscripts
2023	NASA Solar System Workings Program Review Panel, Member
2023	Lunar Data Analysis Program, External Reviewer
2023	Solar System Exploration Research Virtual Institute, External Reviewer
2018 - 2023	Reviews of Geophysics, Editor, One of seven international editors for the preeminent review journal in geosciences.
2022	Heliophysics 2050 Technology Workshop, Panelist
2022	Astronomy and Astrophysics, Publications, Reviewed one manuscript
2022	Geophysical Research Letters, Publications, Reviewed one manuscript
2022	Journal of Geophysical Research, Publications, Reviewed three manuscripts
2022	Astrophysical Journal, Publications, Reviewed one manuscript
2022	Science Advances, Publications, Reviewed one manuscript
2022	Nature, Reviewer, Publications, Reviewed one manuscript
2022	NASA Lunar Data Analysis Program, External Reviewer
2022	NASA PRISM Review Panel, External Reviewer
2020 – 2021	National Academies, Planetary Decadal Survey - Mars Panel, Member, Sets national priorities for the next decade of planetary science and astrobiology science at the NSF and NASA.
2019 – 2021	Parker Solar Probe Electron/Quasi-Thermal Noise Working Group, Co-Chair
2021	Swiss National Science Foundation, External Reviewer
2021	Journal of Geophysical Research, Publications, Reviewed two manuscripts
2021	NASA Solar System Workings Review Panel, External Reviewer.
2021	Space Science Reviews, Reviewer, Publications, Reviewed one manuscript.
2021	Icarus, Reviewer, Publications, Reviewed one manuscript.
2021	Geophysical Research Letters, Reviewer, Publications, Reviewed two manuscripts.
2021	Astrophysical Journal, Reviewer, Publications, Reviewed two manuscripts.
2021	Astronomy and Astrophysics, Reviewer, Publications, Reviewed one manuscript.
2020	Technical Peer Review Panel for ESCAPADE mission, Member
2020	Astronomy and Astrophysics, Reviewer, Publications, Reviewed one manuscript.
2020	Geophysical Research Letters, Reviewer, Publications, Reviewed three manuscripts.
2020	Journal of Geophysical Research, Reviewer, Publications, Reviewed five manuscripts.
2020	Space Science Reviews, Reviewer, Publications, Reviewed one manuscript.
2020	The Astrophysical Journal, Reviewer, Publications, Reviewed one manuscript.
2013 - 2020	Lunar Exploration Analysis Group, Executive Committee, Member
2020	NASA Solar System Workings Review Panel, Chair
2020	NASA Heliophysics Technology and Instrument Development for Science Review Panel, Member
2019	Geophysical Research Letters, Reviewer, Publications, Reviewed two manuscripts.
2019	Journal of Geophysical Research, Reviewer, Publications, Reviewed five manuscripts.
2010 - 2019	Journal of Geophysical Research - Planets, Editor, Assistant/Co-Editor
2019	NASA, Reviewer, Grant Proposals, Served as external reviewer for NASA technology proposals.
2018	Geophysical Research Letters, Reviewer, Publications, Reviewed two manuscripts.
2018	Icarus, Reviewer, Publications, Reviewed one manuscript.

2018	Journal of Geophysical Research, Reviewer, Publications, Reviewed two manuscripts.
2018	NASA, Reviewer, Grant Proposals, Served as external reviewer for 2 NASA data analysis program review panels.
2018	Scientific Organization Committee for Cluster/THEMIS Workshop, Member
2018	Scientific Organization Committee for Europlanet Conference on Planetary Atmospheric Erosion, Member
2017	Geophysical Research Letters, Reviewer, Publications, Reviewed one manuscript.
2017	Journal of Geophysical Research, Reviewer, Publications, Reviewed four manuscripts.
2017	NASA, Reviewer, Grant Proposals, Served as external reviewer for 5 NASA data analysis program review panels.
2017	Planetary and Space Sciences, Reviewer, Publications, Reviewed one manuscript.
2016	AAS, Reviewer, Publications, Reviewed one manuscript.
2016	Geophysical Research Letters, Reviewer, Publications, Reviewed two manuscripts.
2016	Journal of Geophysical Research, Reviewer, Publications, Reviewed ten manuscripts.
2016	NASA, Reviewer, Grant Proposals, Served as external reviewer for 4 NASA data analysis program review panels.
2016	Peer Review for HaloSat mission, Member
2015	EPSCOR, Reviewer, Grant Proposals, Served as external reviewer for 2 EPSCOR review panels.
2015	Geophysical Research Letters, Reviewer, Publications, Reviewed three manuscripts.
2015	Icarus, Reviewer, Publications, Reviewed one manuscript.
2015	IEEE Transactions on Plasma Physics, Reviewer, Publications, Reviewed one manuscript.
2015	Journal of Geophysical Research, Reviewer, Publications, Reviewed three manuscripts.
2015	NASA, Reviewer, Grant Proposals, Served as external reviewer for 5 NASA data analysis program review panels.
2015	Physics of Plasmas, Reviewer, Publications, Reviewed one manuscript.
2015	Swedish National Space Board, Reviewer, Grant Proposals, Served as external reviewer for two major proposals for SNSB.
2015	NASA Living With a Star Review Committee, Chair
2002 - 2014	Reviewer for NASA Data Analysis Programs, Reviewer, Review panelist for five NASA data analysis programs.
2002 - 2014	Reviewer for Various Journals, Reviewer, Reviewed over 60 articles for various journals.
2011	Critical Design Review Panel for BARREL mission, Member
2011	Earth Planets and Space Special Issue Guest Editor, Editor, Assistant/Co-Editor

Department

2022 – Present	Executive Committee
2021 – Present	Subcommittee on Diversity, Equity, and Inclusion, Member
2019 – Present	Society of Physics Students Advisor, Advisor/Departmental Liaison
2023 – 2024	High Energy Physics Experiment Faculty Search Committee, Member
2024	Third-Year Review Committee for Tom Folland, Member
2023	Second-Year Review Committee for Tom Folland, Member
2023	Promotion and Tenure Committee for Casey DeRoo, Chair
2022	Third-Year Review Committee for Casey DeRoo, Member
2019 – 2021	Self Study and Strategic Planning Committee, Member
2019 – 2021	Graduate Recruiting and Admissions Committee, Member
2020	Third-Year Review Committee for David Miles, Member
2019 – 2020	Space Science Faculty Search Committee, Member
2018 – 2019	Space Science Faculty Search Committee, Member
2017	Promotion and Tenure Committee for Scott Baalrud, Member
2017 – 2019	Executive Committee, Member
2017 – 2018	Astrophysics/Space Physics Seminar, Organizer
2016 – 2017	Space Physics Faculty Search Committee, Member
2015 – 2017	Educational Operations Committee, Member

College

2023 - Present	Professional Development Award Review Committee, Member
2023	Dean's Advisory Council Meeting, Speaker
2022	Lunar Science Faculty Search Committee (Earth and Environmental Science Department), Member
2022	OVPR Early Career Scholars Proposal Review Panel, Member
2021	OVPR Early Career Scholars Proposal Review Panel, Member
2018	School of Music External Review, Member
2017	CLAS 20/20 Ideation Charrette, Member

University

2022 - Present	PI of P3 grant "Extending Iowa's Success in Space-Based Research Across Campus". Took over as PI of this $3.6M P3 grant upon the departure of the previous PI, Phil Kaaret.
2019 - Present	Iowa Space Grant Campus Coordinator. Together with the presidential representative Dr. J. Martin Scholtz, I represent the interests of the University of Iowa in this statewide program, which supports STEM-related, education, research, and public engagement across the state of Iowa. This program brings over $700,000/year to the state of Iowa, including more than $60,000/year in research funding to University of Iowa faculty, staff, and students across departments and colleges, as well as additional funds for scholarships, fellowships, and internships for University of Iowa students.
2020 - 2022	Faculty Senate - CLAS Representative, Member

Community

2023	Cedar River Amateur Astronomers, Guest Speaker
2021	Cedar River Amateur Astronomers, Guest Speaker
2020	Cedar River Amateur Astronomers, Guest Speaker
2020	Virtual Public Astronomy Night, Van Allen Observatory, Guest Speaker
2020	Lemme Elementary School, STEAM Night, Guest Speaker
2019	Science Cafe, Mt. Vernon, Invited Lecture
2019	Panel on *Eight Years to the Moo*n, Panelist
2017	Cedar Rapids Lions Club, Invited Lecture
2017	Explorers Seminar Series, Invited Lecture
2017	Wilton High School, Guest Speaker
2016	Sugar Bottom Campground, Guest Speaker
2016	Northwest Middle School, Guest Speaker
2015	MAVEN Educators, Guest Speaker
2015	Sugar Bottom Campground, Guest Speaker
2015	Cedar River Amateur Astronomers, Guest Speaker

Media Contributions

2023	Newspaper/Internet, National Participated in media roundtable at Fall AGU Conference, which led to articles in numerous outlets, including Space.com and Washington Post.
2022	TV, AGU TV, National Participated in AGU TV special on TRACERS mission and Iowa P&A department.
2022	TV, Local television, Local Conducted interviews for local television stations about ARTEMIS-I Launch.
2021	TV, Local television, Local Conducted interviews for local television stations about lunar eclipse.
2021	Radio, River to River, State Interview about Mars 2020 (Perseverance)
2019	Internet, Wired, International Article on the mystery of the lunar ionosphere

2018 Internet, National Geographic, International
Article inspired by research published in Geophysical Research Letters.
2018 Radio, River to River, State
Interview about Solar Probe Launch
2018 TV, Local television, Local
Conducted interviews for local television stations about Solar Probe Launch.
2018 Radio, Radio Iowa, State
Interview about Solar Probe Launch
2016 Radio, River to River, State
Discussed space science on radio.
2015 Radio, River to River, State
Discussed MAVEN first results on radio with Ben Kieffer
2015 TV, Discovery Daily Planet, International
Conducted interview about MAVEN results for an episode of Discovery Canada Daily Planet.
2015 TV, Local television, Local
Conducted interviews for local television stations.
2015 TV, NASA TV, International
Participated in televised release of MAVEN results in a science update on NASA TV.
2015 Newspaper, New York Times, International
Interview with New York Times on MAVEN results
2015 Radio, River to River, State
Discussed Mars on radio with Ben Kieffer
2015 Radio, Talk of Iowa, State
Discussed New Horizons results on radio
2015 Radio, River to River, State
Discussed MAVEN results on radio with Ben Kieffer

Professional Development Activities

2016 Training/Development Program, Communicating Ideas Workshop, University of Iowa,
Participated in media training workshop