Joseph D Huba

List of Publications by Year
in descending order

141 papers	5,123 citations	101543 36 h-index	106344 65 g-index
154 all docs	154 docs citations	154 times ranked	3672 citing authors

#	Article	IF	Citations
1	Sami2 is Another Model of the Ionosphere (SAMI2): A new low-latitude ionosphere model. Journal of Geophysical Research, 2000, 105, 23035-23053.	3.3	470
2	Simulation of the seeding of equatorial spread F by circular gravity waves. Geophysical Research Letters, 2013, 40, 1-5.	4.0	324
3	Threeâ€dimensional equatorial spread F modeling. Geophysical Research Letters, 2008, 35, .	4.0	196
4	The Ionospheric Connection Explorer Mission: Mission Goals and Design. Space Science Reviews, 2018, 214, 1.	8.1	152
5	An improved coupling model for the lithosphereâ€atmosphereâ€ionosphere system. Journal of Geophysical Research: Space Physics, 2014, 119, 3189-3205.	2.4	143
6	Ionosphere plasma bubbles and density variations induced by pre-earthquake rock currents and associated surface charges. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	136
7	Modeling of multiple effects of atmospheric tides on the ionosphere: An examination of possible coupling mechanisms responsible for the longitudinal structure of the equatorial ionosphere. Journal of Geophysical Research, 2010, 115, .	3.3	108
8	Simulation study of penetration electric field effects on the low- to mid-latitude ionosphere. Geophysical Research Letters, 2005, 32, .	4.0	92
9	Hall Magnetic Reconnection Rate. Physical Review Letters, 2004, 93, 175003.	7.8	91
10	Subâ€AlfvÃ©nic plasma expansion. Physics of Fluids B, 1993, 5, 3491-3506.	1.7	90
11	Hall magnetohydrodynamics in space and laboratory plasmas. Physics of Plasmas, 1995, 2, 2504-2513.	1.9	70
12	Global modeling of equatorial plasma bubbles. Geophysical Research Letters, 2010, 37, .	4.0	70
13	SAMI3 prediction of the impact of the 21 August 2017 total solar eclipse on the ionosphere/plasmasphere system. Geophysical Research Letters, 2017, 44, 5928-5935.	4.0	70
14	The Kelvin-Helmholtz instability: Finite Larmor radius magnetohydrodynamics. Geophysical Research Letters, 1996, 23, 2907-2910.	4.0	68
15	On magnetic reconnection regimes and associated three-dimensional asymmetries: Hybrid, Hall-less hybrid, and Hall-MHD simulations. Journal of Geophysical Research, 2004, 109, .	3.3	66
16	Lightning driven EMP in the upper atmosphere. Geophysical Research Letters, 1995, 22, 361-364.	4.0	64
17	Hall magnetic reconnection: Guide field dependence. Physics of Plasmas, 2005, 12, 012322.	1.9	63
18	Impact of meridional winds on equatorial spread F: Revisited. Geophysical Research Letters, 2013, 40, 1268-1272.	4.0	63

#	Article	IF	Citations
19	Threeâ€dimensional equatorial spread F modeling: Zonal neutral wind effects. Geophysical Research Letters, 2009, 36, .	4.0	62
20	Global Ionospheric and Thermospheric Effects of the June 2015 Geomagnetic Disturbances: Multiâ€Instrumental Observations and Modeling. Journal of Geophysical Research: Space Physics, 2017, 122, 11716-11742.	2.4	60
21	Hall magnetohydrodynamic modeling of a longâ€conductionâ€time plasma opening switch. Physics of Plasmas, 1994, 1, 3444-3454.	1.9	58
22	Three-dimensional simulation of equatorial spread-F with meridional wind effects. Annales Geophysicae, 2009, 27, 1821-1830.	1.6	58
23	Ground and Space-Based Measurement of Rocket Engine Burns in the Ionosphere. IEEE Transactions on Plasma Science, 2012, 40, 1267-1286.	1.3	58
24	Hall Magnetohydrodynamics - A Tutorial. , 2003, , 166-192.		57
25	Why do equatorial ionospheric bubbles stop rising?. Geophysical Research Letters, 2010, 37, .	4.0	55
26	Equatorial spreadFmodeling: Multiple bifurcated structures, secondary instabilities, large density â€˜bite-outs,â€™ and supersonic flows. Geophysical Research Letters, 2007, 34, .	4.0	53
27	On the seeding of equatorial spread F by gravity waves. Geophysical Research Letters, 2013, 40, 661-664.	4.0	52
28	Laboratory laser-produced astrophysical-like plasmas. Laser and Particle Beams, 1990, 8, 183-190.	1.0	51
29	Ionospheric and dayglow responses to the radiative phase of the Bastille Day flare. Geophysical Research Letters, 2002, 29, 99-1-99-4.	4.0	50
30	Theory and simulation of a highâ€frequency magnetic drift wave. Physics of Fluids B, 1991, 3, 3217-3225.	1.7	46
31	Modeling of equatorial plasma bubbles triggered by non-equatorial traveling ionospheric disturbances. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	45
32	Finite Larmor radius magnetohydrodynamics of the Rayleighâ€“Taylor instability. Physics of Plasmas, 1996, 3, 2523-2532.	1.9	43
33	Theoretical study of the ionospheric Weddell Sea Anomaly using SAMI2. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	42
34	Storm time ionosphere and plasmasphere structuring: SAMI3â€RCM simulation of the 31 March 2001 geomagnetic storm. Geophysical Research Letters, 2014, 41, 8208-8214.	4.0	42
35	Full profile incoherent scatter analysis at Jicamarca. Annales Geophysicae, 2008, 26, 59-75.	1.6	40
36	Global Modeling of Equatorial Spread F with SAMI3/WACCMâ€X. Geophysical Research Letters, 2020, 47, e2020GL088258.	4.0	40

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37	Modeling the ionospheric impact of tsunamiâ€driven gravity waves with SAMI3: Conjugate effects. Geophysical Research Letters, 2015, 42, 5719-5726.	4.0	38
38	Observation of faster-than-diffusion magnetic field penetration into a plasma. Physics of Plasmas, 2003, 10, 112-125.	1.9	37
39	Threeâ€dimensional modeling of equatorial spread F airglow enhancements. Geophysical Research Letters, 2009, 36, .	4.0	36
40	Ion and electron temperature evolution during equatorial spread F. Geophysical Research Letters, 2009, 36, .	4.0	35
41	SAMI3â€RCM simulation of the 17 March 2015 geomagnetic storm. Journal of Geophysical Research: Space Physics, 2017, 122, 1246-1257.	2.4	33
42	Data Assimilation of Groundâ€Based GPS and Radio Occultation Total Electron Content for Global Ionospheric Specification. Journal of Geophysical Research: Space Physics, 2017, 122, 10,876.	2.4	33
43	Modeling the longitudinal variation in the postâ€sunset farâ€ultraviolet OI airglow using the SAMI2 model. Journal of Geophysical Research, 2008, 113, .	3.3	32
44	Modeling ionospheric superâ€fountain effect based on the coupled TIMEGCMâ€SAMI3. Journal of Geophysical Research: Space Physics, 2013, 118, 2527-2535.	2.4	32
45	Global response of the low-latitude to midlatitude ionosphere due to the Bastille Day flare. Geophysical Research Letters, 2005, 32, .	4.0	31
46	Incoherent scatter from space shuttle and rocket engine plumes in the ionosphere. Journal of Geophysical Research, 1998, 103, 2239-2251.	3.3	30
47	Thermospheric tidal effects on the ionospheric midlatitude summer nighttime anomaly using SAMI3 and TIEGCM. Journal of Geophysical Research: Space Physics, 2013, 118, 3836-3845.	2.4	30
48	On the generation and structure of the quadrupole magnetic field in the reconnection process: Comparative simulation study. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	29
49	Atomic and molecular ion dynamics during equatorial spread F. Geophysical Research Letters, 2009, 36, .	4.0	29
50	Selfâ€consistent modeling of equatorial dawn density depletions with SAMI3. Geophysical Research Letters, 2010, 37, .	4.0	29
51	SAMI2â€PE: A model of the ionosphere including multistream interhemispheric photoelectron transport. Journal of Geophysical Research, 2012, 117, .	3.3	29
52	The Rayleigh-Taylor instability is not damped by recombination in theFregion. Journal of Geophysical Research, 1996, 101, 24553-24556.	3.3	27
53	A new 3D MHD algorithm: the distribution function method. Journal of Plasma Physics, 1999, 61, 391-405.	2.1	27
54	Topside measurements at Jicamarca during solar minimum. Annales Geophysicae, 2009, 27, 427-439.	1.6	27

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55	Electrostatic reconnection in the ionosphere. Geophysical Research Letters, 2015, 42, 1626-1631.	4.0	27
56	SAMI3_ICON: Model of the Ionosphere/Plasmasphere System. Space Science Reviews, 2017, 212, 731-742.	8.1	27
57	Direct EUV/Xâ€Ray Modulation of the Ionosphere During the August 2017 Total Solar Eclipse. Geophysical Research Letters, 2018, 45, 3820-3828.	4.0	27
58	Global Ionospheric Metal Ion Transport With SAMI3. Geophysical Research Letters, 2019, 46, 7937-7944.	4.0	27
59	Short wavelength stabilization of the gradient drift instability due to velocity shear. Geophysical Research Letters, 1983, 10, 357-360.	4.0	26
60	The formation of an electron hole in the topside equatorial ionosphere. Geophysical Research Letters, 2000, 27, 181-184.	4.0	26
61	Ion sound waves in the topside low latitude ionosphere. Geophysical Research Letters, 2000, 27, 3181-3184.	4.0	26
62	Generation of waves in the Venus mantle by the ion acoustic beam instability. Geophysical Research Letters, 1993, 20, 1751-1754.	4.0	25
63	Selfâ€consistent generation of MSTIDs within the SAMI3 numerical model. Journal of Geophysical Research: Space Physics, 2014, 119, 6745-6757.	2.4	24
64	â€˜Skiddingâ€™ of the CRRES Gâ€9 barium release. Geophysical Research Letters, 1992, 19, 1085-1088.	4.0	23
65	Interaction of the Solar Wind with Unmagnetized Planets. Physical Review Letters, 1999, 83, 260-263.	7.8	23
66	An interhemispheric model of artificial ionospheric ducts. Radio Science, 2006, 41, n/a-n/a.	1.6	23
67	Simulation of field-aligned H⁺ and He⁺ dynamics during late-stage plasmasphere refilling. Annales Geophysicae, 2008, 26, 1507-1516.	1.6	23
68	Nonlocal theory of the Rayleighâ€“Taylor instability in the limit of unmagnetized ions. Physics of Fluids B, 1989, 1, 931-941.	1.7	22
69	Theory of smallâ€scale density and electric field fluctuations in the nightside Venus ionosphere. Journal of Geophysical Research, 1992, 97, 43-50.	3.3	22
70	Comparison of O+density from ARGOS LORAAS data analysis and SAMI2 model results. Geophysical Research Letters, 2002, 29, 6-1.	4.0	22
71	SAMI3 simulation of plasmasphere refilling. Geophysical Research Letters, 2013, 40, 2484-2488.	4.0	22
72	Threeâ€dimensional simulation study of ionospheric plasma clouds. Geophysical Research Letters, 1990, 17, 1597-1600.	4.0	21

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73	Selfâ€generation of magnetic fields by sheared flows in weakly ionized plasmas. Physics of Fluids B, 1993, 5, 3779-3788.	1.7	21
74	Exploring the role of ionospheric drivers during the extreme solar minimum of 2008. Annales Geophysicae, 2013, 31, 2147-2156.	1.6	21
75	The Unknown Hydrogen Exosphere: Space Weather Implications. Space Weather, 2018, 16, 205-215.	3.7	20
76	Universal interchange instability in partially ionized gases. Physics of Fluids B, 1990, 2, 2547-2550.	1.7	17
77	The effect of the thermosphere on quiet time plasmasphere morphology. Journal of Geophysical Research: Space Physics, 2014, 119, 5032-5048.	2.4	17
78	Simulation study of a positive ionospheric storm phase observed at Millstone Hill. Geophysical Research Letters, 2006, 33, .	4.0	16
79	Topside equatorial ionospheric density, temperature, and composition under equinox, low solar flux conditions. Journal of Geophysical Research: Space Physics, 2015, 120, 3899-3912.	2.4	16
80	MAVEN Observations of Ionospheric Irregularities at Mars. Geophysical Research Letters, 2017, 44, 10,845.	4.0	16
81	Ionospheric Disturbances Triggered by SpaceX Falcon Heavy. Geophysical Research Letters, 2018, 45, 6334-6342.	4.0	16
82	Largeâ€Scale O⁺ Depletions Observed by ICON in the Postâ€Midnight Topside Ionosphere: Data/Model Comparison. Geophysical Research Letters, 2021, 48, e2020GL092061.	4.0	16
83	Spaceâ€based imaging of nighttime mediumâ€scale traveling ionospheric disturbances using FORMOSATâ€2/ISUAL 630.0â€‰nm airglow observations. Journal of Geophysical Research: Space Physics, 2016, 121, 4769-4781.	2.4	15
84	Modeling Amateur Radio Soundings of the Ionospheric Response to the 2017 Great American Eclipse. Geophysical Research Letters, 2018, 45, 4665-4674.	4.0	15
85	Ionospheric response to the solar flare of 14 July 2000. Radio Science, 2004, 39, n/a-n/a.	1.6	13
86	Seeding equatorial spreadFwith turbulent gravity waves: Phasing effects. Geophysical Research Letters, 2015, 42, 15-21.	4.0	13
87	Measurement and modeling of the refilling plasmasphere during 2001. Journal of Geophysical Research: Space Physics, 2016, 121, 2226-2248.	2.4	13
88	Observation and Simulation of the Development of Equatorial Plasma Bubbles: Postâ€Sunset Rise or Upwelling Growth?. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028544.	2.4	13
89	Radioâ€tomographic images of postmidnight equatorial plasma depletions. Geophysical Research Letters, 2014, 41, 13-19.	4.0	12
90	Understanding and Harnessing the Dual Electrostatic/Electromagnetic Character of Plasma Turbulence in the Nearâ€Earth Space Environment. Journal of Geophysical Research: Space Physics, 2019, 124, 10365-10375.	2.4	11

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91	Change in Total Electron Content During the 26 December 2019 Solar Eclipse: Constraints From GNSS Observations and Comparison With SAMI3 Model Results. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028230.	2.4	11
92	SAMI3 Simulations of Ionospheric Metallic Layers at Arecibo. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027297.	2.4	11
93	Generalized Rayleighâ€Taylor Instability: Ion Inertia, Acceleration Forces, and E Region Drivers. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	11
94	Nonlinear evolution of the unmagnetized ion Rayleighâ€“Taylor instability. Physics of Fluids B, 1990, 2, 2001-2006.	1.7	10
95	Modeling Arecibo conjugate heating effects with SAMI2. Geophysical Research Letters, 2012, 39, .	4.0	10
96	Nonmigrating tidal signature in the distributions of equatorial plasma bubbles and prereversal enhancement. Journal of Geophysical Research: Space Physics, 2015, 120, 3254-3262.	2.4	10
97	Effect of timeâ€dependent 3â€D electron density gradients on high angle of incidence HF radiowave propagation. Radio Science, 2016, 51, 1131-1141.	1.6	10
98	Sensitivity studies of equatorial topside electron and ion temperatures. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	9
99	Dayâ€toâ€day variability in the thermosphere and its impact on plasmasphere refilling. Journal of Geophysical Research: Space Physics, 2016, 121, 6889-6900.	2.4	9
100	The plasmasphere electron content paradox. Journal of Geophysical Research: Space Physics, 2016, 121, 8924-8935.	2.4	9
101	Erosion of the plasmasphere during a storm. Journal of Geophysical Research: Space Physics, 2017, 122, 9320-9328.	2.4	9
102	SAMI3 Simulations of a Persistent Plasmasphere Plume. Geophysical Research Letters, 2018, 45, 3374-3381.	4.0	9
103	Estimation of Ion Temperature in the Upper Ionosphere Along the Swarm Satellite Orbits. Earth and Space Science, 2021, 8, e2021EA001925.	2.6	9
104	Topside Plasma Flows in the Equatorial Ionosphere and Their Relationships to Fâ€Region Winds Near 250Âkm. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	9
105	Smallâ€scale density irregularities in the nightside Venus ionosphere: Comparison of theory and observations. Journal of Geophysical Research, 1993, 98, 3079-3086.	3.3	8
106	Hemispheric daytime ionospheric response to intense solar wind forcing. Geophysical Monograph Series, 2005, , 261-275.	0.1	8
107	Estimating the electron energy distribution during ionospheric modification from spectrographic airglow measurements. Journal of Geophysical Research, 2012, 117, .	3.3	8
108	Heaterâ€induced ionization inferred from spectrometric airglow measurements. Journal of Geophysical Research: Space Physics, 2014, 119, 2038-2045.	2.4	8

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109	Eclipseâ€Induced Changes to Topside Ion Composition and Fieldâ€Aligned Ion Flows in the August 2017 Solar Eclipse: eâ€POP Observations. Geophysical Research Letters, 2018, 45, 10,829.	4.0	8
110	Numerical Modeling of the Concentric Gravity Wave Seeding of Lowâ€Latitude Nighttime Mediumâ€Scale Traveling Ionospheric Disturbances. Geophysical Research Letters, 2018, 45, 6390-6399.	4.0	8
111	The Statistical Characteristics of Smallâ€Scale Ionospheric Irregularities Observed in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2019, 124, 5874-5893.	2.4	8
112	Modeling the Impact of Metallic Ion Layers on Equatorial Spread With SAMI3/ESF. Geophysical Research Letters, 2020, 47, no.	4.0	8
113	Early Time Evolution of Turbulence in the Space Environment by Neutral Beam Injection. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027587.	2.4	8
114	Simulation study of mid-latitude ionosphere fluctuations observed at Millstone Hill. Geophysical Research Letters, 2003, 30, .	4.0	7
115	Propagation of whistler mode waves through the ionosphere. Journal of Geophysical Research, 2012, 117, .	3.3	7
116	New Systems for Space Based Monitoring of Ionospheric Irregularities and Radio Wave Scintillations. Geophysical Monograph Series, 2013, , 431-440.	0.1	7
117	Geospace variability during the 2008â€“2009 Whole Heliosphere Intervals. Journal of Geophysical Research: Space Physics, 2014, 119, 3755-3776.	2.4	6
118	On the Annual Asymmetry of Highâ€Latitude Sporadic F. Space Weather, 2019, 17, 1618-1626.	3.7	6
119	Simulation of Counterstreaming H + Outflows During Plasmasphere Refilling. Geophysical Research Letters, 2019, 46, 3052-3060.	4.0	6
120	Strong Amplification of ELF/VLF Signals in Space Using Neutral Gas Injections From a Satellite Rocket Engine. Radio Science, 2021, 56, e2020RS007207.	1.6	6
121	Modeling the presunrise plasma heating in the lowâ€to midlatitude topside ionospheres. Journal of Geophysical Research, 2010, 115, .	3.3	5
122	Modeling 3â€D artificial ionospheric ducts. Journal of Geophysical Research: Space Physics, 2013, 118, 7450-7457.	2.4	5
123	Theoretical study of the ionospheric plasma cave in the equatorial ionization anomaly region. Journal of Geophysical Research: Space Physics, 2014, 119, 10,324.	2.4	5
124	Lowâ€latitude midnight brightness in 630.0 nm limb observations by FORMOSATâ€2/ISUAL. Journal of Geophysical Research: Space Physics, 2014, 119, 4894-4904.	2.4	5
125	A coupled ionosphereâ€raytrace model for highâ€power HF heating. Geophysical Research Letters, 2015, 42, 9650-9656.	4.0	5
126	The Effect of Oxygen on the Limiting H + Flux in the Topside Ionosphere. Journal of Geophysical Research: Space Physics, 2019, 124, 4509-4517.	2.4	5

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127	Isolated Peak of Oxygen Ion Fraction in the Postâ€Noon Equatorial Fâ€Region: ICON and SAMI3/WACCMâ€X. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029217.	2.4	5
128	The Effect of Midnight Temperature Maximum Winds on Postâ€Midnight Equatorial Spread F. Space Weather, 2021, 19, e2021SW002728.	3.7	4
129	Highâ€Latitude Electrodynamics Specified in SAMI3 Using AMPERE Fieldâ€Aligned Currents. Space Weather, 2022, 20, .	3.7	4
130	Open source project to aid ionosphere physics research. Eos, 2002, 83, 188.	0.1	3
131	Does Ring Current Heating Generate the Observed O⁺ Shell?. Geophysical Research Letters, 2020, 47, e2020GL088419.	4.0	3
132	Counterstreaming Cold H+, He+, O+, and N+ Outflows in the Plasmasphere. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	3
133	Theory of kilometerâ€size density waves in the nightside Venus ionosphere. Geophysical Research Letters, 1993, 20, 2763-2766.	4.0	2
134	Forced Hall magnetic reconnection: Parametric variation of the â€œNewton Challengeâ€. Physics of Plasmas, 2006, 13, 062311.	1.9	2
135	Can HF heating generate ESF bubbles?. Geophysical Research Letters, 2014, 41, 8155-8160.	4.0	2
136	Evolution of Fieldâ€Aligned Electron and Ion Densities From Whistler Mode Radio Soundings During Quiet to Moderately Active Period and Comparisons With SAMI2 Simulations. Journal of Geophysical Research: Space Physics, 2018, 123, 1356-1380.	2.4	2
137	Anomalous Transport in Current Sheets. Symposium - International Astronomical Union, 1985, 107, 315-328.	0.1	1
138	Magnetospheric resonances at low and middle latitudes. Journal of Geophysical Research: Space Physics, 2015, 120, 7718-7727.	2.4	1
139	Observations and Modeling Studies of Solar Eclipse Effects on Oblique High Frequency Radio Propagation. Space Weather, 2021, 19, e2020SW002560.	3.7	1
140	3D Dynamics of X- and Z - Pinches. IEEE International Conference on Plasma Science, 2005, , .	0.0	0
141	The Effect of the Thermosphere on Ionosphere Outflows. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	0