

# Herbert C Carlson

## List of Publications by Year in descending order

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53  
papers

2,417  
citations

136950

32  
h-index

197818

49  
g-index

53  
all docs

53  
docs citations

53  
times ranked

853  
citing authors

#	ARTICLE	IF	CITATIONS
1	Production of polar cap electron density patches by transient magnetopause reconnection. <i>Geophysical Research Letters</i> , 1992, 19, 1731-1734.	4.0	178
2	High frequency induced enhancements of the incoherent scatter spectrum at Arecibo. <i>Journal of Geophysical Research</i> , 1972, 77, 1242-1250.	3.3	143
3	Sharpening our thinking about polar cap ionospheric patch morphology, research, and mitigation techniques. <i>Radio Science</i> , 2012, 47, .	1.6	123
4	Ionospheric heating by magnetic conjugate-point photoelectrons. <i>Journal of Geophysical Research</i> , 1966, 71, 195-199.	3.3	118
5	Arecibo heating experiments. <i>Radio Science</i> , 1974, 9, 1041-1047.	1.6	97
6	Creation of artificial ionospheric layers using high-power HF waves. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	83
7	On the MLT distribution of <i>F</i> region polar cap patches at night. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	75
8	Ionospheric patch formation: Direct measurements of the origin of a polar cap patch. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	74
9	Direct observations of injection events of subauroral plasma into the polar cap. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	69
10	Thermal response of the <i>F</i> region ionosphere in artificial modification experiments by HF radio waves. <i>Journal of Geophysical Research</i> , 1981, 86, 561-574.	3.3	68
11	Optical ring formation and ionization production in high-power HF heating experiments at HAARP. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	67
12	High-resolution observations of the small-scale flow pattern associated with a poleward moving auroral form in the cusp. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	65
13	Observations of isolated polar cap patches by the European Incoherent Scatter (EISCAT) Svalbard and Super Dual Auroral Radar Network (SuperDARN) Finland radars. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	62
14	Magnetic zenith enhancement of HF radio-induced airglow production at HAARP. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	61
15	First observations of HF heater-produced airglow at the High Frequency Active Auroral Research Program facility: Thermal excitation and spatial structuring. <i>Radio Science</i> , 2001, 36, 1013-1026.	1.6	60
16	Multi-instrument mapping of the small-scale flow dynamics related to a cusp auroral transient. <i>Annales Geophysicae</i> , 2005, 23, 2657-2670.	1.6	54
17	Ionospheric heating at Arecibo: First tests. <i>Journal of Geophysical Research</i> , 1971, 76, 7808-7813.	3.3	53
18	On the collocation between dayside auroral activity and coherent HF radar backscatter. <i>Annales Geophysicae</i> , 2000, 18, 1531-1549.	1.6	53

#	ARTICLE	IF	CITATIONS
19	Implications of the altitude of transient 630nm dayside auroral emissions. Journal of Geophysical Research, 1993, 98, 15571-15587.	3.3	52
20	Case for a new process, not mechanism, for cusp irregularity production. Journal of Geophysical Research, 2007, 112, .	3.3	52
21	Flow-aligned jets in the magnetospheric cusp: Results from the Geospace Environment Modeling Pilot Program. Journal of Geophysical Research, 1995, 100, 7649.	3.3	50
22	Reversed flow events in the winter cusp ionosphere observed by the European Incoherent Scatter (EISCAT) Svalbard radar. Journal of Geophysical Research, 2007, 112, .	3.3	48
23	A theoretical study of the seasonal and solar cycle variations of stable aurora red arcs. Journal of Geophysical Research, 1990, 95, 12219-12234.	3.3	47
24	On the relationship between ion upflow events and cusp auroral transients. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	45
25	ESR mapping of polar-cap patches in the dark cusp. Geophysical Research Letters, 2002, 29, 24-1-24-4.	4.0	44
26	On the relationship between thin Birkeland current arcs and reversed flow channels in the winter cusp/cleft ionosphere. Journal of Geophysical Research, 2008, 113, .	3.3	44
27	Photoelectron flux buildup in the plasmasphere. Journal of Geophysical Research, 1978, 83, 1-15.	3.3	41
28	First-principles physics of cusp/polar cap thermospheric disturbances. Geophysical Research Letters, 2012, 39, .	4.0	37
29	Large airglow enhancements produced via wave-plasma interactions in sporadic E. Geophysical Research Letters, 1999, 26, 1557-1560.	4.0	36
30	Continuous observation of cusp auroral dynamics in response to an IMF BY polarity change. Geophysical Research Letters, 1999, 26, 1243-1246.	4.0	35
31	Magnetic-Zenith Effect. Radiophysics and Quantum Electronics, 2005, 48, 686-699.	0.5	35
32	The dynamics and relationships of precipitation, temperature and convection boundaries in the dayside auroral ionosphere. Annales Geophysicae, 2004, 22, 1973-1987.	1.6	34
33	Reversed flow events in the cusp ionosphere detected by SuperDARN HF radars. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	28
34	On the relationship between flux transfer events, temperature enhancements, and ion upflow events in the cusp ionosphere. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	25
35	The plasma line revisited as an aeronomical diagnostic: Suprathermal electrons, solar EUV, electron-gas thermal balance. Geophysical Research Letters, 1977, 4, 565-567.	4.0	24
36	Langmuir turbulence in ionospheric plasma. Plasma Physics Reports, 2004, 30, 995-1005.	0.9	23

#	ARTICLE	IF	CITATIONS
37	Reexamination of the $O(3P^1D)$ excitation rate by thermal electron impact. <i>Geophysical Research Letters</i> , 1991, 18, 159-162.	4.0	22
38	Combined airglow and incoherent scatter observations as a technique for studying neutral atmospheric variations. <i>Radio Science</i> , 1974, 9, 205-210.	1.6	21
39	On a new process for cusp irregularity production. <i>Annales Geophysicae</i> , 2008, 26, 2871-2885.	1.6	20
40	Phenomena induced by powerful HF pumping towards magnetic zenith with a frequency near the F-region critical frequency and the third electron gyro harmonic frequency. <i>Annales Geophysicae</i> , 2009, 27, 131-145.	1.6	18
41	Creating space plasma from the ground. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 978-999.	2.4	18
42	Which cusp upflow events can possibly turn into outflows?. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 6876-6890.	2.4	16
43	Suprathermal electrons generated by the interaction of powerful radio wave with the ionosphere. <i>Geophysical Research Letters</i> , 2000, 27, 2461-2464.	4.0	14
44	Stratification of east-west plasma flow channels observed in the ionospheric cusp in response to IMF $B_Y$ polarity changes. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	13
45	High power HF modification: Geophysics, span of EM effects, and energy budget. <i>Advances in Space Research</i> , 1993, 13, 15-24.	2.6	12
46	Thermally excited 630.0nm $O(1D)$ emission in the cusp: A frequent high-altitude transient signature. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 5842-5852.	2.4	10
47	Photoelectron energy loss and spectral features deduced by the plasma line technique. <i>Journal of Geophysical Research</i> , 1977, 82, 1017-1023.	3.3	9
48	Role of neutral atmospheric dynamics in cusp density and ionospheric patch formation. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	9
49	Response of the Polar Cap Ionosphere to Changes in (Solar Wind) IMF. , 1998, , 255-270.		9
50	Convection surrounding mesoscale ionospheric flow channels. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	7
51	Low-latitude 10eV electrons: Nighttime plasma line as a new research capability. <i>Geophysical Research Letters</i> , 2015, 42, 7255-7263.	4.0	6
52	A statistical survey of heat input parameters into the cusp thermosphere. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 9622-9651.	2.4	6
53	HF Accelerated Electron Fluxes, Spectra, and Ionization. <i>Earth, Moon and Planets</i> , 2015, 116, 1-18.	0.6	4