David J Knudsen

List of Publications by Year
in descending order

90 papers	2,632 citations	218381 26 h-index	205818 48 g-index
95 all docs	95 docs citations	95 times ranked	1555 citing authors

#	Article	IF	Citations
1	Swarm â€“ An Earth Observation Mission investigating Geospace. Advances in Space Research, 2008, 41, 210-216.	1.2	322
2	Thermal ion imagers and Langmuir probes in the Swarm electric field instruments. Journal of Geophysical Research: Space Physics, 2017, 122, 2655-2673.	0.8	183
3	Broadband ELF plasma emission during auroral energization: 1. Slow ion acoustic waves. Journal of Geophysical Research, 1998, 103, 4343-4375.	3.3	119
4	New science in plain sight: Citizen scientists lead to the discovery of optical structure in the upper atmosphere. Science Advances, 2018, 4, eaaq0030.	4.7	100
5	Poynting flux measurements on a satellite: A diagnostic tool for space research. Journal of Geophysical Research, 1991, 96, 201-207.	3.3	95
6	Calibration and Validation of Swarm Plasma Densities and Electron Temperatures Using Groundâ€Based Radars and Satellite Radio Occultation Measurements. Radio Science, 2018, 53, 15-36.	0.8	95
7	Correlation between core ion energization, suprathermal electron bursts, and broadband ELF plasma waves. Journal of Geophysical Research, 1998, 103, 4171-4186.	3.3	94
8	Width and structure of mesoscale optical auroral arcs. Geophysical Research Letters, 2001, 28, 705-708.	1.5	87
9	AlfvÃ©n waves in the auroral ionosphere: A numerical model compared with measurements. Journal of Geophysical Research, 1992, 97, 77-90.	3.3	84
10	Distinguishing AlfvÃ©n waves from quasiâ€static field structures associated with the discrete aurora: Sounding rocket and HILAT satellite measurements. Geophysical Research Letters, 1990, 17, 921-924.	1.5	74
11	Swarm in situ observations of ‹b›‹i›F‹/i›‹/b› region polar cap patches created by cusp precipitation. Geophysical Research Letters, 2015, 42, 996-1003.	1.5	66
12	Longitudinally propagating arc wave in the preâ€onset optical aurora. Geophysical Research Letters, 2009, 36, .	1.5	53
13	Magnetospheric Signatures of STEVE: Implications for the Magnetospheric Energy Source and Interhemispheric Conjugacy. Geophysical Research Letters, 2019, 46, 5637-5644.	1.5	50
14	Ionospheric reflection of small-scale AlfvÃ©n waves. Geophysical Research Letters, 2001, 28, 3573-3576.	1.5	49
15	Core ion flux bursts within solitary kinetic AlfvÃ©n waves. Journal of Geophysical Research, 1998, 103, 4157-4169.	3.3	46
16	Spatial modulation of electron energy and density by nonlinear stationary inertial AlfvÃ©n waves. Journal of Geophysical Research, 1996, 101, 10761-10772.	3.3	43
17	Observation of polar cap patches and calculation of gradient drift instability growth times: A Swarm case study. Geophysical Research Letters, 2015, 42, 201-206.	1.5	43
18	A low-energy charged particle distribution imager with a compact sensor for space applications. Review of Scientific Instruments, 2003, 74, 202-211.	0.6	41

#	Article	IF	Citations
19	Optical and radar observations of the motion of auroral arcs. Journal of Atmospheric and Solar-Terrestrial Physics, 1996, 58, 57-69.	0.9	39
20	Rocketâ€based measurements of ion velocity, neutral wind, and electric field in the collisional transition region of the auroral ionosphere. Journal of Geophysical Research, 2009, 114, .	3.3	39
21	Diagnosing the Role of AlfvÃ©n Waves in Magnetosphereâ€Ionosphere Coupling: Swarm Observations of Large Amplitude Nonstationary Magnetic Perturbations During an Interval of Northward IMF. Journal of Geophysical Research: Space Physics, 2018, 123, 326-340.	0.8	39
22	Thermal ion upflow in the cusp ionosphere and its dependence on soft electron energy flux. Journal of Geophysical Research, 2010, 115, .	3.3	35
23	AlfvÃ©nic Dynamics and Fine Structuring of Discrete Auroral Arcs: Swarm and eâ€POP Observations. Geophysical Research Letters, 2018, 45, 545-555.	1.5	33
24	Quiescent Discrete Auroral Arcs: A Review of Magnetospheric Generator Mechanisms. Space Science Reviews, 2020, 216, 1.	3.7	31
25	First observations from the RISR-C incoherent scatter radar. Radio Science, 2016, 51, 1645-1659.	0.8	29
26	Northern preference for terrestrial electromagnetic energy input from space weather. Nature Communications, 2021, 12, 199.	5.8	29
27	The Freja F3C Cold Plasma Analyzer. Space Science Reviews, 1994, 70, 541-561.	3.7	27
28	Observations of the auroral width spectrum at kilometre-scale size. Annales Geophysicae, 2010, 28, 711-718.	0.6	27
29	Core ion interactions with BB ELF, lower hybrid, and AlfvÃ©n waves in the high-latitude topside ionosphere. Journal of Geophysical Research, 2004, 109, .	3.3	26
30	Swarm observations of fieldâ€aligned currents associated with pulsating auroral patches. Journal of Geophysical Research: Space Physics, 2015, 120, 9484-9499.	0.8	26
31	Lower-thermosphereâ€“ionosphere (LTI) quantities: current status of measuring techniques and models. Annales Geophysicae, 2021, 39, 189-237.	0.6	25
32	AlfvÃ©n waves in the auroral region, their Poynting flux, and reflection coefficient as estimated from Swarm observations. Journal of Geophysical Research: Space Physics, 2017, 122, 2345-2360.	0.8	24
33	Swarm Observation of Fieldâ€Aligned Currents Associated With Multiple Auroral Arc Systems. Journal of Geophysical Research: Space Physics, 2017, 122, 10,145.	0.8	24
34	A survey of quiet auroral arc orientation and the effects of the interplanetary magnetic field. Journal of Geophysical Research: Space Physics, 2014, 119, 2550-2562.	0.8	22
35	Lowâ€Altitude Ion Heating, Downflowing Ions, and BBELF Waves in the Return Current Region. Journal of Geophysical Research: Space Physics, 2018, 123, 3087-3110.	0.8	22
36	Birkeland current boundary flows. Journal of Geophysical Research: Space Physics, 2017, 122, 4617-4627.	0.8	21

#	Article	IF	Citations
37	The CASSIOPE/e-POP Suprathermal Electron Imager (SEI). Space Science Reviews, 2015, 189, 65-78.	3.7	20
38	Validity Study of the Swarm Horizontal Crossâ€Track Ion Drift Velocities in the Highâ€Latitude Ionosphere. Earth and Space Science, 2019, 6, 411-432.	1.1	20
39	Lower-hybrid cavity density depletions as a result of transverse ion acceleration localized on the gyroradius scale. Journal of Geophysical Research, 2004, 109, .	3.3	19
40	Evolution of Midâ€latitude Density Irregularities and Scintillation in North America During the 7â€“8 September 2017 Storm. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029192.	0.8	19
41	Modelling Electrostatic Sheath Effects on Swarm Electric Field Instrument Measurements. Space Science Reviews, 2010, 156, 73-87.	3.7	18
42	Anisotropic core ion temperatures associated with strong zonal flows and upflows. Geophysical Research Letters, 2015, 42, 981-986.	1.5	18
43	Identifying the 630Ânm auroral arc emission height: A comparison of the triangulation, FAC profile, and electron density methods. Journal of Geophysical Research: Space Physics, 2017, 122, 8181-8197.	0.8	17
44	A Comparison of Crossâ€Track Ion Drift Measured by the Swarm Satellites and Plasma Convection Velocity Measured by SuperDARN. Journal of Geophysical Research: Space Physics, 2019, 124, 4710-4724.	0.8	17
45	A Statistical Survey of the 630.0â€nm Optical Signature of Periodic Auroral Arcs Resulting From Magnetospheric Field Line Resonances. Geophysical Research Letters, 2018, 45, 4648-4655.	1.5	16
46	Sub-kilometer thermal plasma structure near 1750 km altitude in the polar cusp/cleft. Geophysical Research Letters, 1994, 21, 1907-1910.	1.5	14
47	Localized field-aligned currents in the polar cap associated with airglow patches. Journal of Geophysical Research: Space Physics, 2016, 121, 10,172-10,189.	0.8	14
48	Potential Evidence of Lowâ€Energy Electron Scattering and Ionospheric Precipitation by Time Domain Structures. Geophysical Research Letters, 2020, 47, e2020GL089138.	1.5	14
49	Effect of lower hybrid cavities on core plasma observed by Freja. Journal of Geophysical Research, 1998, 103, 4241-4249.	3.3	13
50	eâ€POP and Red Line Optical Observations of AlfvÃ©nic Auroras. Journal of Geophysical Research: Space Physics, 2019, 124, 4672-4696.	0.8	13
51	Tethered two-point measurements of solitary auroral density cavities. Geophysical Research Letters, 1999, 26, 2933-2936.	1.5	12
52	Rainbow of the Night: First Direct Observation of a SAR Arc Evolving Into STEVE. Geophysical Research Letters, 2022, 49, .	1.5	12
53	Highâ€latitudeEregion ionosphereâ€thermosphere coupling: A comparative study using in situ and incoherent scatter radar observations. Journal of Geophysical Research, 2012, 117, .	3.3	11
54	Potential impact of Swarm electric field data on global 2D convection mapping in combination with SuperDARN radar data. Journal of Atmospheric and Solar-Terrestrial Physics, 2013, 93, 87-99.	0.6	11

#	Article	IF	Citations
55	Statistical survey of nighttime midlatitude magnetic fluctuations: Their source location and Poynting flux as derived from the Swarm constellation. Journal of Geophysical Research: Space Physics, 2016, 121, 11,235.	0.8	11
56	Ionospheric electron heating associated with pulsating auroras: A Swarm survey and model simulation. Journal of Geophysical Research: Space Physics, 2017, 122, 8781-8807.	0.8	11
57	Swarm Survey of AlfvÃ©nic Fluctuations and Their Relation to Nightside Fieldâ€Aligned Current and Auroral Arc Systems. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027220.	0.8	11
58	Calibration and assessment of Swarm ion drift measurements using a comparison with a statistical convection model. Earth, Planets and Space, 2016, 68, .	0.9	10
59	Distinguishing Subauroral Ion Drifts From Birkeland Current Boundary Flows. Journal of Geophysical Research: Space Physics, 2018, 123, 819-826.	0.8	10
60	Small-Scale Dynamic Aurora. Space Science Reviews, 2021, 217, 17.	3.7	10
61	Highâ€Resolution Poynting Flux Statistics From the Swarm Mission: How Much Is Being Underestimated at Larger Scales?. Journal of Geophysical Research: Space Physics, 2022, 127, .	0.8	10
62	Swarm Satellite and EISCAT Radar Observations of a Plasma Flow Channel in the Auroral Oval Near Magnetic Midnight. Journal of Geophysical Research: Space Physics, 2018, 123, 5140-5158.	0.8	9
63	Observational Evidence for the Role of Hall Conductance in AlfvÃ©n Wave Reflection. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028119.	0.8	9
64	Estimation of Ion Temperature in the Upper Ionosphere Along the Swarm Satellite Orbits. Earth and Space Science, 2021, 8, e2021EA001925.	1.1	9
65	Structure, Acceleration, and Energy in Auroral Arcs and the Role of AlfvÃ©n Waves. Space Science Reviews, 2001, 95, 501-511.	3.7	8
66	Strong ambipolarâ€driven ion upflow within the cleft ion fountain during low geomagnetic activity. Journal of Geophysical Research: Space Physics, 2016, 121, 6950-6969.	0.8	8
67	Dayside Fieldâ€Aligned Current Impacts on Ionospheric Irregularities. Geophysical Research Letters, 2020, 47, e2019GL086722.	1.5	8
68	The dispersive AlfvÃ©n wave in the time-stationary limit with a focus on collisional and warm-plasma effects. Physics of Plasmas, 2008, 15, .	0.7	7
69	On O⁺ Ion Heating by BBELF Waves at Low Altitude: Test Particle Simulations. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027291.	0.8	7
70	Flow Velocity and Fieldâ€Aligned Current Associated With Field Line Resonance: SuperDARN Measurements. Journal of Geophysical Research: Space Physics, 2019, 124, 4889-4904.	0.8	6
71	Advection of magnetic energy as a source of power for auroral arcs. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	5
72	Radio-Frequency Ion Mass Spectrometer Measurements of Ion Composition, Velocity and Temperature: the EXOS-D Suprathermal Mass Spectrometer. Geophysical Monograph Series, 2013, , 307-312.	0.1	5

#	Article	IF	Citations
73	Dynamics of the correlation between polar cap radio absorption and solar energetic proton fluxes in the interplanetary medium. Journal of Geophysical Research: Space Physics, 2014, 119, 1627-1642.	0.8	5
74	Strong magnetic field fluctuations within filamentary auroral density cavities interpreted as VLF saucer sources. Journal of Geophysical Research, 2012, 117, .	3.3	4
75	Editorial: Topical Collection on Auroral Physics. Space Science Reviews, 2021, 217, 1.	3.7	4
76	Spectral characteristics of the collisional stationary AlfvÃ©n wave in the laboratory and space regimes. Plasma Physics and Controlled Fusion, 2008, 50, 074005.	0.9	3
77	Forward mapping of solar energetic proton distributions through the geomagnetic field. Journal of Geophysical Research: Space Physics, 2013, 118, 4724-4738.	0.8	3
78	Inverse electron energy dispersion from moving auroral forms. Journal of Geophysical Research: Space Physics, 2016, 121, 11,896.	0.8	3
79	Suprathermal Electron Acceleration Perpendicular to the Magnetic Field in the Topside Ionosphere. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027449.	0.8	3
80	Standing AlfvÃ©n Waves Within Equatorial Plasma Bubbles. Geophysical Research Letters, 2022, 49, .	1.5	3
81	Altitude Distribution of Large and Smallâ€Scale Equatorial Ionospheric Irregularities Sampled From an Elliptical Lowâ€Earth Orbit. Journal of Geophysical Research: Space Physics, 2022, 127, .	0.8	3
82	Thermal Electron Temperature Measurements from the Freja Cold Plasma Analyzer. Geophysical Monograph Series, 0, , 91-96.	0.1	2
83	Swarm Observations of Dawn/Dusk Asymmetries Between Pedersen Conductance in Upward and Downward Fieldâ€Aligned Current Regions. Earth and Space Science, 2021, 8, e2020EA001167.	1.1	2
84	eâ€POP Observations of Suprathermal Electron Bursts in the Ionospheric AlfvÃ©n Resonator. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028005.	0.8	1
85	Effects of Ion Slippage in Earth's Ionosphere and the Plasma Sheet. Geophysical Research Letters, 2021, 48, e2020GL091494.	1.5	1
86	The Outer Radiation Belt Injection, Transport, Acceleration and Loss Satellite (ORBITALS): A Proposed Canadian Small Satellite Mission for ILWS. , 2009, , .		0
87	Low-energy particle imaging on swarm and ePOP: A new view of the ionosphere. , 2014, , .		0
88	Auroral current systems and ARC formation: Observations and theory. , 2016, , .		0
89	Birkeland Current Boundary Flows Associated With Field Line Resonances. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028896.	0.8	0
90	The Diffuse Auroral Eraser. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028805.	0.8	0