

# David J Knudsen

## List of Publications by Year in descending order

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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	Standing Alfvén Waves Within Equatorial Plasma Bubbles. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	3
2	Rainbow of the Night: First Direct Observation of a SAR Arc Evolving Into STEVE. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	12
3	Altitude Distribution of Large and Small-Scale Equatorial Ionospheric Irregularities Sampled From an Elliptical Low-Earth Orbit. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	0.8	3
4	High-Resolution Poynting Flux Statistics From the Swarm Mission: How Much Is Being Underestimated at Larger Scales?. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	0.8	10
5	Northern preference for terrestrial electromagnetic energy input from space weather. <i>Nature Communications</i> , 2021, 12, 199.	5.8	29
6	Editorial: Topical Collection on Auroral Physics. <i>Space Science Reviews</i> , 2021, 217, 1.	3.7	4
7	Lower-thermosphere-ionosphere (LTI) quantities: current status of measuring techniques and models. <i>Annales Geophysicae</i> , 2021, 39, 189-237.	0.6	25
8	POP Observations of Suprathermal Electron Bursts in the Ionospheric Alfvén Resonator. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028005.	0.8	1
9	Small-Scale Dynamic Aurora. <i>Space Science Reviews</i> , 2021, 217, 17.	3.7	10
10	Effects of Ion Slippage in Earth's Ionosphere and the Plasma Sheet. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091494.	1.5	1
11	Birkeland Current Boundary Flows Associated With Field Line Resonances. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028896.	0.8	0
12	The Diffuse Auroral Eraser. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028805.	0.8	0
13	Evolution of Mid-latitude Density Irregularities and Scintillation in North America During the 7-8 September 2017 Storm. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029192.	0.8	19
14	Swarm Observations of Dawn/Dusk Asymmetries Between Pedersen Conductance in Upward and Downward Field-Aligned Current Regions. <i>Earth and Space Science</i> , 2021, 8, e2020EA001167.	1.1	2
15	Estimation of Ion Temperature in the Upper Ionosphere Along the Swarm Satellite Orbits. <i>Earth and Space Science</i> , 2021, 8, e2021EA001925.	1.1	9
16	Quiescent Discrete Auroral Arcs: A Review of Magnetospheric Generator Mechanisms. <i>Space Science Reviews</i> , 2020, 216, 1.	3.7	31
17	Dayside Field-Aligned Current Impacts on Ionospheric Irregularities. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086722.	1.5	8
18	On O <sup>+</sup> Ion Heating by BBELF Waves at Low Altitude: Test Particle Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027291.	0.8	7

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19	Potential Evidence of Low-Energy Electron Scattering and Ionospheric Precipitation by Time Domain Structures. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089138.	1.5	14
20	Swarm Survey of Alfvénic Fluctuations and Their Relation to Nightside Field-Aligned Current and Auroral Arc Systems. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027220.	0.8	11
21	Suprathermal Electron Acceleration Perpendicular to the Magnetic Field in the Topside Ionosphere. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027449.	0.8	3
22	Observational Evidence for the Role of Hall Conductance in Alfvén Wave Reflection. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA028119.	0.8	9
23	Flow Velocity and Field-Aligned Current Associated With Field Line Resonance: SuperDARN Measurements. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 4889-4904.	0.8	6
24	ePOP and Red Line Optical Observations of Alfvénic Auroras. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 4672-4696.	0.8	13
25	A Comparison of Cross-Track Ion Drift Measured by the Swarm Satellites and Plasma Convection Velocity Measured by SuperDARN. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 4710-4724.	0.8	17
26	Magnetospheric Signatures of STEVE: Implications for the Magnetospheric Energy Source and Interhemispheric Conjugacy. <i>Geophysical Research Letters</i> , 2019, 46, 5637-5644.	1.5	50
27	Validity Study of the Swarm Horizontal Cross-Track Ion Drift Velocities in the High-Latitude Ionosphere. <i>Earth and Space Science</i> , 2019, 6, 411-432.	1.1	20
28	Distinguishing Subauroral Ion Drifts From Birkeland Current Boundary Flows. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 819-826.	0.8	10
29	Low-Altitude Ion Heating, Downflowing Ions, and BBELF Waves in the Return Current Region. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 3087-3110.	0.8	22
30	Alfvénic Dynamics and Fine Structuring of Discrete Auroral Arcs: Swarm and ePOP Observations. <i>Geophysical Research Letters</i> , 2018, 45, 545-555.	1.5	33
31	Diagnosing the Role of Alfvén Waves in Magnetosphere-Ionosphere Coupling: Swarm Observations of Large Amplitude Nonstationary Magnetic Perturbations During an Interval of Northward IMF. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 326-340.	0.8	39
32	New science in plain sight: Citizen scientists lead to the discovery of optical structure in the upper atmosphere. <i>Science Advances</i> , 2018, 4, eaaq0030.	4.7	100
33	Calibration and Validation of Swarm Plasma Densities and Electron Temperatures Using Ground-Based Radars and Satellite Radio Occultation Measurements. <i>Radio Science</i> , 2018, 53, 15-36.	0.8	95
34	A Statistical Survey of the 630.0-nm Optical Signature of Periodic Auroral Arcs Resulting From Magnetospheric Field Line Resonances. <i>Geophysical Research Letters</i> , 2018, 45, 4648-4655.	1.5	16
35	Swarm Satellite and EISCAT Radar Observations of a Plasma Flow Channel in the Auroral Oval Near Magnetic Midnight. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 5140-5158.	0.8	9
36	Alfvén waves in the auroral region, their Poynting flux, and reflection coefficient as estimated from Swarm observations. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 2345-2360.	0.8	24

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37	Birkeland current boundary flows. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 4617-4627.	0.8	21
38	Thermal ion imagers and Langmuir probes in the Swarm electric field instruments. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 2655-2673.	0.8	183
39	Identifying the 630Ånm auroral arc emission height: A comparison of the triangulation, FAC profile, and electron density methods. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 8181-8197.	0.8	17
40	Ionospheric electron heating associated with pulsating auroras: A Swarm survey and model simulation. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 8781-8807.	0.8	11
41	Swarm Observation of Field-Aligned Currents Associated With Multiple Auroral Arc Systems. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 10,145.	0.8	24
42	Auroral current systems and ARC formation: Observations and theory. , 2016, , .		0
43	Calibration and assessment of Swarm ion drift measurements using a comparison with a statistical convection model. <i>Earth, Planets and Space</i> , 2016, 68, .	0.9	10
44	First observations from the RISR-C incoherent scatter radar. <i>Radio Science</i> , 2016, 51, 1645-1659.	0.8	29
45	Strong ambipolar-driven ion upflow within the cleft ion fountain during low geomagnetic activity. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 6950-6969.	0.8	8
46	Localized field-aligned currents in the polar cap associated with airglow patches. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 10,172-10,189.	0.8	14
47	Statistical survey of nighttime midlatitude magnetic fluctuations: Their source location and Poynting flux as derived from the Swarm constellation. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 11,235.	0.8	11
48	Inverse electron energy dispersion from moving auroral forms. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 11,896.	0.8	3
49	Observation of polar cap patches and calculation of gradient drift instability growth times: A Swarm case study. <i>Geophysical Research Letters</i> , 2015, 42, 201-206.	1.5	43
50	Swarm in situ observations of $F$ region polar cap patches created by cusp precipitation. <i>Geophysical Research Letters</i> , 2015, 42, 996-1003.	1.5	66
51	Anisotropic core ion temperatures associated with strong zonal flows and upflows. <i>Geophysical Research Letters</i> , 2015, 42, 981-986.	1.5	18
52	Swarm observations of field-aligned currents associated with pulsating auroral patches. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 9484-9499.	0.8	26
53	The CASSIOPE/e-POP Suprathermal Electron Imager (SEI). <i>Space Science Reviews</i> , 2015, 189, 65-78.	3.7	20
54	Low-energy particle imaging on swarm and ePOP: A new view of the ionosphere. , 2014, , .		0

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55	Dynamics of the correlation between polar cap radio absorption and solar energetic proton fluxes in the interplanetary medium. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 1627-1642.	0.8	5
56	A survey of quiet auroral arc orientation and the effects of the interplanetary magnetic field. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 2550-2562.	0.8	22
57	Potential impact of Swarm electric field data on global 2D convection mapping in combination with SuperDARN radar data. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2013, 93, 87-99.	0.6	11
58	Forward mapping of solar energetic proton distributions through the geomagnetic field. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 4724-4738.	0.8	3
59	Radio-Frequency Ion Mass Spectrometer Measurements of Ion Composition, Velocity and Temperature: the EXOS-D Suprathermal Mass Spectrometer. <i>Geophysical Monograph Series</i> , 2013, , 307-312.	0.1	5
60	High-latitude region ionosphere-thermosphere coupling: A comparative study using in situ and incoherent scatter radar observations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	11
61	Strong magnetic field fluctuations within filamentary auroral density cavities interpreted as VLF saucer sources. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	4
62	Advection of magnetic energy as a source of power for auroral arcs. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	5
63	Modelling Electrostatic Sheath Effects on Swarm Electric Field Instrument Measurements. <i>Space Science Reviews</i> , 2010, 156, 73-87.	3.7	18
64	Observations of the auroral width spectrum at kilometre-scale size. <i>Annales Geophysicae</i> , 2010, 28, 711-718.	0.6	27
65	Thermal ion upflow in the cusp ionosphere and its dependence on soft electron energy flux. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	35
66	The Outer Radiation Belt Injection, Transport, Acceleration and Loss Satellite (ORBITALS): A Proposed Canadian Small Satellite Mission for ILWS. , 2009, , .		0
67	Longitudinally propagating arc wave in the pre-onset optical aurora. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	53
68	Rocket-based measurements of ion velocity, neutral wind, and electric field in the collisional transition region of the auroral ionosphere. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	39
69	Swarm – An Earth Observation Mission investigating Geospace. <i>Advances in Space Research</i> , 2008, 41, 210-216.	1.2	322
70	The dispersive Alfvén wave in the time-stationary limit with a focus on collisional and warm-plasma effects. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	7
71	Spectral characteristics of the collisional stationary Alfvén wave in the laboratory and space regimes. <i>Plasma Physics and Controlled Fusion</i> , 2008, 50, 074005.	0.9	3
72	Core ion interactions with BB ELF, lower hybrid, and Alfvén waves in the high-latitude topside ionosphere. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	26

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73	Lower-hybrid cavity density depletions as a result of transverse ion acceleration localized on the gyroradius scale. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	19
74	A low-energy charged particle distribution imager with a compact sensor for space applications. <i>Review of Scientific Instruments</i> , 2003, 74, 202-211.	0.6	41
75	Width and structure of mesoscale optical auroral arcs. <i>Geophysical Research Letters</i> , 2001, 28, 705-708.	1.5	87
76	Ionospheric reflection of small-scale Alfvén waves. <i>Geophysical Research Letters</i> , 2001, 28, 3573-3576.	1.5	49
77	Structure, Acceleration, and Energy in Auroral Arcs and the Role of Alfvén Waves. <i>Space Science Reviews</i> , 2001, 95, 501-511.	3.7	8
78	Tethered two-point measurements of solitary auroral density cavities. <i>Geophysical Research Letters</i> , 1999, 26, 2933-2936.	1.5	12
79	Correlation between core ion energization, suprathermal electron bursts, and broadband ELF plasma waves. <i>Journal of Geophysical Research</i> , 1998, 103, 4171-4186.	3.3	94
80	Core ion flux bursts within solitary kinetic Alfvén waves. <i>Journal of Geophysical Research</i> , 1998, 103, 4157-4169.	3.3	46
81	Effect of lower hybrid cavities on core plasma observed by Freja. <i>Journal of Geophysical Research</i> , 1998, 103, 4241-4249.	3.3	13
82	Broadband ELF plasma emission during auroral energization: 1. Slow ion acoustic waves. <i>Journal of Geophysical Research</i> , 1998, 103, 4343-4375.	3.3	119
83	Spatial modulation of electron energy and density by nonlinear stationary inertial Alfvén waves. <i>Journal of Geophysical Research</i> , 1996, 101, 10761-10772.	3.3	43
84	Optical and radar observations of the motion of auroral arcs. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1996, 58, 57-69.	0.9	39
85	The Freja F3C Cold Plasma Analyzer. <i>Space Science Reviews</i> , 1994, 70, 541-561.	3.7	27
86	Sub-kilometer thermal plasma structure near 1750 km altitude in the polar cusp/cleft. <i>Geophysical Research Letters</i> , 1994, 21, 1907-1910.	1.5	14
87	Alfvén waves in the auroral ionosphere: A numerical model compared with measurements. <i>Journal of Geophysical Research</i> , 1992, 97, 77-90.	3.3	84
88	Poynting flux measurements on a satellite: A diagnostic tool for space research. <i>Journal of Geophysical Research</i> , 1991, 96, 201-207.	3.3	95
89	Distinguishing Alfvén waves from quasi-static field structures associated with the discrete aurora: Sounding rocket and HILAT satellite measurements. <i>Geophysical Research Letters</i> , 1990, 17, 921-924.	1.5	74
90	Thermal Electron Temperature Measurements from the Freja Cold Plasma Analyzer. <i>Geophysical Monograph Series</i> , 0, , 91-96.	0.1	2