Tomas Karlsson

List of Publications by Year
in descending order

83 papers	1,981 citations	304602 22 h-index	302012 39 g-index
98 all docs	98 docs citations	98 times ranked	1448 citing authors

#	Article	IF	Citations
1	First results of electric field and density observations by Cluster EFW based on initial months of operation. Annales Geophysicae, 2001, 19, 1219-1240.	0.6	273
2	Temporal evolution of the electric field accelerating electrons away from the auroral ionosphere. Nature, 2001, 414, 724-727.	13.7	132
3	Jets Downstream of Collisionless Shocks. Space Science Reviews, 2018, 214, 1.	3.7	101
4	Investigating Mercuryâ€™s Environment with the Two-Spacecraft BepiColombo Mission. Space Science Reviews, 2020, 216, 1.	3.7	71
5	In Situ Observations of a Magnetosheath Highâ€Speed Jet Triggering Magnetopause Reconnection. Geophysical Research Letters, 2018, 45, 1732-1740.	1.5	66
6	On the origin of magnetosheath plasmoids and their relation to magnetosheath jets. Journal of Geophysical Research: Space Physics, 2015, 120, 7390-7403.	0.8	56
7	A statistical study of intense low-altitude electric fields observed by Freja. Geophysical Research Letters, 1996, 23, 1005-1008.	1.5	53
8	Localized density enhancements in the magnetosheath: Threeâ€dimensional morphology and possible importance for impulsive penetration. Journal of Geophysical Research, 2012, 117, .	3.3	52
9	Altitude Distribution of the Auroral Acceleration Potential Determined from Cluster Satellite Data at Different Heights. Physical Review Letters, 2011, 106, 055002.	2.9	40
10	Waves in high-speed plasmoids in the magnetosheath and at the magnetopause. Annales Geophysicae, 2014, 32, 991-1009.	0.6	37
11	Statistical investigation of Kelvinâ€Helmholtz waves at the magnetopause of Mercury. Journal of Geophysical Research: Space Physics, 2014, 119, 9670-9683.	0.8	37
12	Plasma penetration of the dayside magnetopause. Physics of Plasmas, 2012, 19, .	0.7	33
13	Quiet, Discrete Auroral Arcsâ€"Observations. Space Science Reviews, 2020, 216, 1.	3.7	31
14	Small and mesoâ€scale properties of a substorm onset auroral arc. Journal of Geophysical Research, 2010, 115, .	3.3	29
15	The statistical difference between bending arcs and regular polar arcs. Journal of Geophysical Research: Space Physics, 2015, 120, 10,443.	0.8	28
16	Classifying Magnetosheath Jets Using MMS: Statistical Properties. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027754.	0.8	27
17	Rosetta measurements of lower hybrid frequency range electric field oscillations in the plasma environment of comet 67P. Geophysical Research Letters, 2017, 44, 1641-1651.	1.5	26
18	Lower hybrid waves at comet 67P/Churyumovâ€"Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 469, S29-S38.	1.6	26

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19	Magnetosheath jet properties and evolution as determined by a global hybrid-Vlasov simulation. Annales Geophysicae, 2018, 36, 1171-1182.	0.6	26
20	On the magnetic characteristics of magnetic holes in the solar wind between Mercury and Venus. Annales Geophysicae, 2020, 38, 51-60.	0.6	26
21	Temporal and spatial evolution of discrete auroral arcs as seen by Cluster. Annales Geophysicae, 2005, 23, 2531-2557.	0.6	25
22	Isolated magnetic field structures in Mercury's magnetosheath as possible analogues for terrestrial magnetosheath plasmoids and jets. Planetary and Space Science, 2016, 129, 61-73.	0.9	25
23	Cluster observations of an auroral potential and associated field-aligned current reconfiguration during thinning of the plasma sheet boundary layer. Journal of Geophysical Research, 2007, 112, n/a-n/a.	3.3	24
24	The evolution of flux pileup regions in the plasma sheet: Cluster observations. Journal of Geophysical Research: Space Physics, 2013, 118, 6279-6290.	0.8	24
25	Investigating short-time-scale variations in cometary ions around comet 67P. Monthly Notices of the Royal Astronomical Society, 2017, 469, S522-S534.	1.6	24
26	First observations of magnetic holes deep within the coma of a comet. Astronomy and Astrophysics, 2018, 618, A114.	2.1	24
27	Magnetosheath Highâ€Speed Jets: Internal Structure and Interaction With Ambient Plasma. Journal of Geophysical Research: Space Physics, 2017, 122, 10,157.	0.8	23
28	Evolution in space and time of the quasi-static acceleration potential of inverted-V aurora and its interaction with AlfvÃ©nic boundary processes. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	22
29	Evidence for the braking of flow bursts as they propagate toward the Earth. Journal of Geophysical Research: Space Physics, 2014, 119, 9004-9018.	0.8	22
30	IMF dependence of the azimuthal direction of earthward magnetotail fast flows. Geophysical Research Letters, 2013, 40, 5598-5604.	1.5	20
31	Plasma Wave Investigation (PWI) Aboard BepiColombo Mio on the Trip to the First Measurement of Electric Fields, Electromagnetic Waves, and Radio Waves Around Mercury. Space Science Reviews, 2020, 216, 1.	3.7	20
32	Auroral arc and oval electrodynamics in the Harang region. Journal of Geophysical Research, 2009, 114, .	3.3	19
33	Magnetic forces associated with bursty bulk flows in Earth's magnetotail. Geophysical Research Letters, 2015, 42, 3122-3128.	1.5	18
34	Response of magnetotail twisting to variations in IMF <i>B</i>_{<i>y</i>}: A THEMIS case study 1â€“2 January 2009. Geophysical Research Letters, 2016, 43, 7822-7830.	1.5	18
35	Magnetic Holes in the Solar Wind and Magnetosheath Near Mercury. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028961.	0.8	18
36	Smallâ€scale, localized electromagnetic waves observed by Cluster: Result of magnetosphereâ€ionosphere interactions. Geophysical Research Letters, 2008, 35, .	1.5	17

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37	Occurrence and properties of substorms associated with pseudobreakups. Journal of Geophysical Research, 2010, 115, .	3.3	17
38	Spatiotemporal features of the auroral acceleration region as observed by Cluster. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	17
39	Invertedâ€V and lowâ€energy broadband electron acceleration features of multiple auroras within a largeâ€scale surge. Journal of Geophysical Research: Space Physics, 2013, 118, 5543-5552.	0.8	17
40	Imaging of Aurora to Estimate the Energy and Flux of Electron Precipitation. Geophysical Monograph Series, 0, , 171-182.	0.1	17
41	On Enhanced Aurora and Low-Altitude Parallel Electric Fields. Physica Scripta, 2005, 72, 419-422.	1.2	16
42	Statistical study of linear magnetic hole structures near Earth. Annales Geophysicae, 2021, 39, 239-253.	0.6	16
43	Cold and warm electrons at comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 0, , .	2.1	15
44	Investigating the anatomy of magnetosheath jets â€“ MMS observations. Annales Geophysicae, 2018, 36, 655-677.	0.6	15
45	Magnetosheath jet evolution as a function of lifetime: global hybrid-Vlasov simulations compared to MMS observations. Annales Geophysicae, 2021, 39, 289-308.	0.6	15
46	Downstream high-speed plasma jet generation as a direct consequence of shock reformation. Nature Communications, 2022, 13, 598.	5.8	15
47	Mutual Evolution of Aurora and Ionospheric Electrodynamic Features Near the Harang Reversal During Substorms. Geophysical Monograph Series, 0, , 159-170.	0.1	14
48	Statistical altitude distribution of the auroral density cavity. Journal of Geophysical Research: Space Physics, 2015, 120, 996-1006.	0.8	14
49	Extremely Lowâ€Frequency Waves Inside the Diamagnetic Cavity of Comet 67P/Churyumovâ€Gerasimenko. Geophysical Research Letters, 2018, 45, 3854-3864.	1.5	14
50	A Comparative Study of the Proton Properties of Magnetospheric Substorms at Earth and Mercury in the Near Magnetotail. Geophysical Research Letters, 2018, 45, 7933-7941.	1.5	14
51	Properties of the singing comet waves in the 67P/Churyumov-Gerasimenko plasma environment as observed by the Rosetta mission. Astronomy and Astrophysics, 2019, 630, A39.	2.1	14
52	Classification of Magnetosheath Jets Using Neural Networks and High Resolution OMNI (HRO) Data. Frontiers in Astronomy and Space Sciences, 2020, 7, .	1.1	14
53	MESSENGER observations of the dayside lowâ€latitude boundary layer in Mercury's magnetosphere. Journal of Geophysical Research: Space Physics, 2015, 120, 8387-8400.	0.8	13
54	Seasonal dependence and solar wind control of transpolar arc luminosity. Journal of Geophysical Research, 2008, 113, .	3.3	12

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55	Observations of magnetospheric ULF waves in connection with the Kelvinâ€Helmholtz instability at Mercury. Journal of Geophysical Research: Space Physics, 2016, 121, 8576-8588.	0.8	12
56	Cluster multipoint study of the acceleration potential pattern and electrodynamics of an auroral surge and its associated horn arc. Journal of Geophysical Research, 2012, 117, .	3.3	11
57	Oxygen ion response to proton bursty bulk flows. Journal of Geophysical Research: Space Physics, 2016, 121, 7535-7546.	0.8	11
58	On the divergence of the auroral electrojets. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	10
59	Causes of Jets in the Quasiâ€Perpendicular Magnetosheath. Geophysical Research Letters, 2021, 48, e2021GL093173.	1.5	10
60	Geomagnetic signatures of auroral substorms preceded by pseudobreakups. Journal of Geophysical Research, 2009, 114, .	3.3	9
61	Quiet, Discrete Auroral Arcs: Acceleration Mechanisms. Space Science Reviews, 2020, 216, 1.	3.7	9
62	On the Generation of Pi2 Pulsations due to Plasma Flow Patterns Around Magnetosheath Jets. Geophysical Research Letters, 2021, 48, e2021GL093611.	1.5	9
63	Auroral Arc Electrodynamics: Review and Outlook. Geophysical Monograph Series, 0, , 143-158.	0.1	8
64	Pseudo altitude: A new perspective on the auroral density cavity. Journal of Geophysical Research: Space Physics, 2013, 118, 4341-4351.	0.8	8
65	Emergence of MHD structures in a collisionless PIC simulation plasma. Physics of Plasmas, 2017, 24, .	0.7	8
66	In situ observations of density cavities extending above the auroral acceleration region. Journal of Geophysical Research: Space Physics, 2014, 119, 5286-5294.	0.8	7
67	Lowâ€altitude electron acceleration due to multiple flow bursts in the magnetotail. Geophysical Research Letters, 2014, 41, 777-784.	1.5	7
68	The MEFISTO and WPT Electric Field Sensors of the Plasma Wave Investigation on the BepiColombo Mio Spacecraft. Space Science Reviews, 2020, 216, 1.	3.7	7
69	Investigation of â€‰â ̂¼â€‰20â€"40â€‰mHz ULF waves and their driving mechanisms in Mercury's dayside magnetosphere. Annales Geophysicae, 2017, 35, 879-884.	0.6	6
70	DMSP Observations of Highâ€Latitude Dayside Aurora (HiLDA). Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028808.	0.8	6
71	Classifying the Magnetosheath Behind the Quasiâ€Parallel and Quasiâ€Perpendicular Bow Shock by Local Measurements. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029269.	0.8	6
72	Helium in the Earth's foreshock: a global Vlasiator survey. Annales Geophysicae, 2020, 38, 1081-1099.	0.6	6

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73	Statistical altitude distribution of Cluster auroral electric fields, indicating mainly quasiâ€static acceleration below 2.8 <i>R_E</i> and AlfvÃ©nic above. Journal of Geophysical Research: Space Physics, 2014, 119, 8984-8991.	0.8	5
74	Magnetospheric signatures of ionospheric density cavities observed by Cluster. Journal of Geophysical Research: Space Physics, 2015, 120, 1876-1887.	0.8	5
75	Electron density and parallel electric field distribution of the auroral density cavity. Journal of Geophysical Research: Space Physics, 2015, 120, 9428-9441.	0.8	4
76	Editorial: Topical Collection on Auroral Physics. Space Science Reviews, 2021, 217, 1.	3.7	4
77	Plasma Density and Magnetic Field Fluctuations in the Ion Gyroâ€Frequency Range Near the Diamagnetic Cavity of Comet 67P. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028592.	0.8	4
78	Cometary plasma science. Experimental Astronomy, 2022, 54, 1129-1167.	1.6	3
79	Upstream solar wind speed at comet 67P. Reconstruction method, model comparison, and results. Astronomy and Astrophysics, 0, , .	2.1	3
80	The Difference Between Isolated Flux Transfer Events and Flux Transfer Event Cascades. Journal of Geophysical Research: Space Physics, 2019, 124, 7850-7871.	0.8	2
81	Oscillatory Flows in the Magnetotail Plasma Sheet: Cluster Observations of the Distribution Function. Journal of Geophysical Research: Space Physics, 2019, 124, 2736-2754.	0.8	1
82	Asymmetric interaction of a solar wind reconnecting current sheet and its magnetic hole with Earthâ€™s bow shock and magnetopause. Journal of Geophysical Research: Space Physics, 0, , .	0.8	1
83	Oxygen Ion Flow Reversals in Earth's Magnetotail: A Cluster Statistical Study. Journal of Geophysical Research: Space Physics, 2019, 124, 8928-8942.	0.8	0