Herbert Gunell

List of Publications by Year
in descending order

117 papers	3,121 citations	172457 29 h-index	175258 52 g-index
138 all docs	138 docs citations	138 times ranked	1882 citing authors

#	Article	IF	Citations
1	The Analyzer of Space Plasmas and Energetic Atoms (ASPERA-3) for the Mars Express Mission. Space Science Reviews, 2007, 126, 113-164.	8.1	241
2	The Analyser of Space Plasmas and Energetic Atoms (ASPERA-4) for the Venus Express mission. Planetary and Space Science, 2007, 55, 1772-1792.	1.7	214
3	The loss of ions from Venus through the plasma wake. Nature, 2007, 450, 650-653.	27.8	168
4	First observation of Mars with XMM-Newton. Astronomy and Astrophysics, 2006, 451, 709-722.	5.1	110
5	Birth of a comet magnetosphere: A spring of water ions. Science, 2015, 347, aaa0571.	12.6	107
6	Loss of hydrogen and oxygen from the upper atmosphere of Venus. Planetary and Space Science, 2006, 54, 1445-1456.	1.7	106
7	Mass composition of the escaping plasma at Mars. Icarus, 2006, 182, 320-328.	2.5	103
8	Mars Express and Venus Express multi-point observations of geoeffective solar flare events in December 2006. Planetary and Space Science, 2008, 56, 873-880.	1.7	102
9	Evolution of the ion environment of comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2015, 583, A20.	5.1	76
10	Ion loss on Mars caused by the Kelvinâ€“Helmholtz instability. Planetary and Space Science, 2004, 52, 1157-1167.	1.7	71
11	Why an intrinsic magnetic field does not protect a planet against atmospheric escape. Astronomy and Astrophysics, 2018, 614, L3.	5.1	69
12	Location of the bow shock and ion composition boundaries at Venusâ€"initial determinations from Venus Express ASPERA-4. Planetary and Space Science, 2008, 56, 780-784.	1.7	64
13	On the origin of magnetosheath plasmoids and their relation to magnetosheath jets. Journal of Geophysical Research: Space Physics, 2015, 120, 7390-7403.	2.4	56
14	Evolution of the ion environment of comet 67P during the Rosetta mission as seen by RPC-ICA. Monthly Notices of the Royal Astronomical Society, 2017, 469, S252-S261.	4.4	55
15	First ENA observations at Mars: ENA emissions from the martian upper atmosphere. Icarus, 2006, 182, 424-430.	2.5	53
16	Ionospheric photoelectrons at Venus: Initial observations by ASPERA-4 ELS. Planetary and Space Science, 2008, 56, 802-806.	1.7	48
17	Comparative analysis of Venus and Mars magnetotails. Planetary and Space Science, 2008, 56, 812-817.	1.7	48
18	Halogens as tracers of protosolar nebula material in comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 472, 1336-1345.	4.4	44

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19	ROSINA/DFMS and IES observations of 67P: Ion-neutral chemistry in the coma of a weakly outgassing comet. Astronomy and Astrophysics, 2015, 583, A2.	5.1	43
20	First ENA observations at Mars: Subsolar ENA jet. Icarus, 2006, 182, 413-423.	2.5	42
21	The Hydrogen Exospheric Density Profile Measured with ASPERA-3/NPD. Space Science Reviews, 2007, 126, 447-467.	8.1	42
22	First ENA observations at Mars: Charge exchange ENAs produced in the magnetosheath. Icarus, 2006, 182, 431-438.	2.5	39
23	Waves in high-speed plasmoids in the magnetosheath and at the magnetopause. Annales Geophysicae, 2014, 32, 991-1009.	1.6	37
24	Hybrid modelling of cometary plasma environments. Astronomy and Astrophysics, 2017, 604, A73.	5.1	37
25	Ion escape at Mars: Comparison of a 3-D hybrid simulation with Mars Express IMA/ASPERA-3 measurements. Icarus, 2006, 182, 350-359.	2.5	34
26	Plasma penetration of the dayside magnetopause. Physics of Plasmas, 2012, 19, .	1.9	33
27	The atmosphere of comet 67P/Churyumov-Gerasimenko diagnosed by charge-exchanged solar wind alpha particles. Astronomy and Astrophysics, 2016, 587, A154.	5.1	33
28	Direct Measurements of Energetic Neutral Hydrogen in the Interplanetary Medium. Astrophysical Journal, 2006, 644, 1317-1325.	4.5	32
29	The infant bow shock: a new frontier at a weak activity comet. Astronomy and Astrophysics, 2018, 619, L2.	5.1	32
30	Tailward flow of energetic neutral atoms observed at Mars. Journal of Geophysical Research, 2008, 113, .	3.3	30
31	The Delayed Time Response of Geomagnetic Activity to the Solar Wind. Journal of Geophysical Research: Space Physics, 2017, 122, 11,109.	2.4	29
32	Planetary ENA Imaging: Venus and a comparison with Mars. Planetary and Space Science, 2005, 53, 433-441.	1.7	28
33	Ion chemistry in the coma of comet 67P near perihelion. Monthly Notices of the Royal Astronomical Society, 2016, 462, S67-S77.	4.4	28
34	Ion acoustic waves at comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2017, 600, A3.	5.1	28
35	X rays from solar wind charge exchange at Mars: A comparison of simulations and observations. Geophysical Research Letters, 2004, 31, .	4.0	27
36	First ENA observations at Mars: Solar-wind ENAs on the nightside. Icarus, 2006, 182, 439-447.	2.5	27

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37	Evidence for distributed gas sources of hydrogen halides in the coma of comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 469, S695-S711.	4.4	27
38	Size of a plasma cloud matters. Astronomy and Astrophysics, 2018, 616, A50.	5.1	26
39	Energetic Hydrogen and Oxygen Atoms Observed on the Nightside of Mars. Space Science Reviews, 2007, 126, 267-297.	8.1	24
40	Investigating short-time-scale variations in cometary ions around comet 67P. Monthly Notices of the Royal Astronomical Society, 2017, 469, S522-S534.	4.4	24
41	Energetic Neutral Atoms (ENA) at Mars: Properties of the hydrogen atoms produced upstream of the martian bow shock and implications for ENA sounding technique around non-magnetized planets. Icarus, 2006, 182, 448-463.	2.5	22
42	The Venusian induced magnetosphere: A case study of plasma and magnetic field measurements on the Venus Express mission. Planetary and Space Science, 2008, 56, 796-801.	1.7	22
43	Shear driven waves in the induced magnetosphere of Mars. Plasma Physics and Controlled Fusion, 2008, 50, 074018.	2.1	22
44	Solar wind charge exchange in cometary atmospheres. Astronomy and Astrophysics, 2019, 630, A37.	5.1	21
45	Formation of Electric Field Spikes in Electron-Beamâ€“Plasma Interaction. Physical Review Letters, 1996, 77, 5059-5062.	7.8	20
46	Investigation of the Influence of Magnetic Anomalies on Ion Distributions at Mars. Space Science Reviews, 2007, 126, 355-372.	8.1	20
47	Tailward flow of energetic neutral atoms observed at Venus. Journal of Geophysical Research, 2008, 113, .	3.3	20
48	First observation of energetic neutral atoms in the Venus environment. Planetary and Space Science, 2008, 56, 807-811.	1.7	19
49	On the interpretation of Langmuir probe data inside a spacecraft sheath. Review of Scientific Instruments, 2010, 81, 105106.	1.3	19
50	Plasma waves confined to the diamagnetic cavity of comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 469, S84-S92.	4.4	19
51	Dynamic unmagnetized plasma in the diamagnetic cavity around comet 67P/Churyumovâ€“Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2018, 475, 4140-4147.	4.4	19
52	Planetary ENA imaging: Effects of different interaction models for Mars. Planetary and Space Science, 2006, 54, 117-131.	1.7	18
53	The Effect of Cosmic Rays on Cometary Nuclei. I. Dose Deposition. Astrophysical Journal, 2020, 890, 89.	4.5	18
54	Bursts of high-frequency plasma waves at an electric double layer. Journal Physics D: Applied Physics, 1996, 29, 643-654.	2.8	17

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55	Weakly damped acoustic-like ion waves in plasmas with non-Maxwellian ion distributions. Physics of Plasmas, 2001, 8, 3550-3557.	1.9	16
56	Electrostatic degrees of freedom in non-Maxwellian plasma. Physics of Plasmas, 2002, 9, 1931-1937.	1.9	16
57	Simulations of solar wind charge exchange X-ray emissions at Venus. Geophysical Research Letters, 2007, 34, .	4.0	16
58	Simulations of a plasmoid penetrating a magnetic barrier. Plasma Physics and Controlled Fusion, 2008, 50, 074013.	2.1	16
59	A high frequency probe for absolute measurements of electric fields in plasmas. Journal Physics D: Applied Physics, 1995, 28, 595-599.	2.8	14
60	Extremely Lowâ€Frequency Waves Inside the Diamagnetic Cavity of Comet 67P/Churyumovâ€Gerasimenko. Geophysical Research Letters, 2018, 45, 3854-3864.	4.0	14
61	Energy conversion in cometary atmospheres. Astronomy and Astrophysics, 2018, 616, A81.	5.1	14
62	Solar wind charge exchange in cometary atmospheres. Astronomy and Astrophysics, 2019, 630, A35.	5.1	14
63	Flexible simple-pole expansion of distribution functions. Physics of Plasmas, 1997, 4, 3469-3476.	1.9	13
64	Evolution of Highâ€Speed Jets and Plasmoids Downstream of the Quasiâ€Perpendicular Bow Shock. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027667.	2.4	13
65	The Effect of Cosmic Rays on Cometary Nuclei. II. Impact on Ice Composition and Structure. Astrophysical Journal, 2020, 901, 136.	4.5	13
66	Electric field spikes formed by electron beamâ€"plasma interaction in plasma density gradients. Physics of Plasmas, 1997, 4, 2805-2812.	1.9	11
67	Energisation of O+ and O+ 2 Ions at Mars: An Analysis of a 3-D Quasi-Neutral Hybrid Model Simulation. Space Science Reviews, 2007, 126, 39-62.	8.1	11
68	Oxygen ion response to proton bursty bulk flows. Journal of Geophysical Research: Space Physics, 2016, 121, 7535-7546.	2.4	11
69	Solar wind charge exchange in cometary atmospheres. Astronomy and Astrophysics, 2019, 630, A36.	5.1	11
70	The NUADU experiment on TC-2 and the first Energetic Neutral Atom (ENA) images recorded by this instrument. Annales Geophysicae, 2005, 23, 2825-2849.	1.6	10
71	Numerical experiments on plasmoids entering a transverse magnetic field. Physics of Plasmas, 2009, 16, 112901.	1.9	10
72	Oxygen ion energization observed at high altitudes. Annales Geophysicae, 2010, 28, 907-916.	1.6	10

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73	Photochemistry of forbidden oxygen lines in the inner coma of 67P/Churyumovâ€Gerasimenko. Journal of Geophysical Research: Space Physics, 2016, 121, 804-816.	2.4	10
74	Observations of multiharmonic ion cyclotron waves due to inverse ion cyclotron damping in the northern magnetospheric cusp. Geophysical Research Letters, 2017, 44, 22-29.	4.0	10
75	Can Reconnection be Triggered as a Solar Wind Directional Discontinuity Crosses the Bow Shock? AÂCaseÂof Asymmetric Reconnection. Journal of Geophysical Research: Space Physics, 2019, 124, 8507-8523.	2.4	10
76	Interacting eigenmodes of a plasma diode with a density gradient. Physics of Plasmas, 1998, 5, 590-600.	1.9	9
77	Simulations of X-rays from solar wind charge exchange at Mars: Parameter dependence. Advances in Space Research, 2005, 36, 2057-2065.	2.6	9
78	Acceleration of ions and nano dust at a comet in the solar wind. Planetary and Space Science, 2015, 119, 13-23.	1.7	9
79	Warm protons at comet 67P/Churyumovâ€“Gerasimenko â€“ implications for the infant bow shock. Annales Geophysicae, 2021, 39, 379-396.	1.6	9
80	Bow Shock Generator Current Systems: MMS Observations of Possible Current Closure. Journal of Geophysical Research: Space Physics, 2018, 123, 242-258.	2.4	8
81	Electrostatic fluctuations in plasmas with distribution functions described by simple pole expansions. Physics of Plasmas, 2002, 9, 2585-2592.	1.9	7
82	Vlasov simulations of parallel potential drops. Annales Geophysicae, 2013, 31, 1227-1240.	1.6	7
83	Polarisation of a small-scale cometary plasma environment. Astronomy and Astrophysics, 2019, 631, A174.	5.1	7
84	Groundâ€Based Magnetometer Response to Impacting Magnetosheath Jets. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029115.	2.4	7
85	Correcting peak deformation in Rosetta's ROSINA/DFMS mass spectrometer. International Journal of Mass Spectrometry, 2015, 393, 41-51.	1.5	6
86	A localised high frequency discharge formed in an electron-beam-produced plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 241, 281-286.	2.1	4
87	The use of the power density for identifying reconnection regions. Journal of Geophysical Research: Space Physics, 2015, 120, 8644-8662.	2.4	4
88	Vlasov simulations of trapping and loss of auroral electrons. Annales Geophysicae, 2015, 33, 279-293.	1.6	4
89	Solar wind charge exchange in cometary atmospheres. Astronomy and Astrophysics, 2020, 640, C3.	5.1	4
90	Experiments on anomalous electron currents to a positive probe in a magnetized plasma stream. Geophysical Research Letters, 2000, 27, 161-164.	4.0	3

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91	Energetic neutral atom imaging of comets. Geophysical Research Letters, 2008, 35, .	4.0	3
92	Numerical and laboratory simulations of auroral acceleration. Physics of Plasmas, 2013, 20, 102901.	1.9	3
93	Ion acoustic waves near a comet nucleus: Rosetta observations at comet 67P/Churyumovâ€"Gerasimenko. Annales Geophysicae, 2021, 39, 53-68.	1.6	3
94	Cometary plasma science. Experimental Astronomy, 2022, 54, 1129-1167.	3.7	3
95	Energetic Hydrogen and Oxygen Atoms Observed on the Nightside of Mars. , 2007, , 267-297.		3
96	Self-consistent electrostatic simulations of reforming double layers in the downward current region of the aurora. Annales Geophysicae, 2015, 33, 1331-1342.	1.6	3
97	Shear driven waves in the induced magnetosphere of Mars: parameter dependence. Astrophysics and Space Sciences Transactions, 2009, 5, 39-42.	1.0	3
98	Upstream solar wind speed at comet 67P. Reconstruction method, model comparison, and results. Astronomy and Astrophysics, 0, , .	5.1	3
99	A Method to Estimate the Physical Properties of Magnetospheric Generators From Observations of Quiet Discrete Auroral Arcs. Journal of Geophysical Research: Space Physics, 2019, 124, 10283-10293.	2.4	2
100	The Hydrogen Exospheric Density Profile Measured with ASPERA-3/NPD. , 2007, , 447-467.		2
101	The Analyzer of Space Plasmas and Energetic Atoms (ASPERA-3) for the Mars Express Mission. , 2007, , 113-164.		2
102	The fate of O⁺ ions observed in the plasma mantle: particle tracing modelling and cluster observations. Annales Geophysicae, 2020, 38, 645-656.	1.6	2
103	Electron pitch angle variations recorded at the high magnetic latitude boundary layer by the NUADU instrument on the TC-2 spacecraft. Annales Geophysicae, 2005, 23, 2953-2959.	1.6	1
104	Quasiperiodic mode hopping in competing ionization waves. Plasma Physics and Controlled Fusion, 2014, 56, 015003.	2.1	1
105	2D photochemical model for forbidden oxygen line emission for comet 1P/Halley. Monthly Notices of the Royal Astronomical Society, 2016, 462, S116-S123.	4.4	1
106	Can the downward current region of the aurora be simulated in the laboratory?. Plasma Physics and Controlled Fusion, 2016, 58, 054003.	2.1	1
107	Oscillatory Flows in the Magnetotail Plasma Sheet: Cluster Observations of the Distribution Function. Journal of Geophysical Research: Space Physics, 2019, 124, 2736-2754.	2.4	1
108	Tailward Flows in the Vicinity of Fast Earthward Flows. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028978.	2.4	1

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109	Waves and fluctuations in non-Maxwellian plasmas. , 0, , .		0
110	Investigation of the Influence of Magnetic Anomalies on Ion Distributions at Mars. , 2007, , 355-372.		0
111	Relativistic magnetic flux amplification. , 2013, , .		0
112	Investigation Into Relativistic Magnetic Flux Amplification. IEEE Transactions on Plasma Science, 2016, 44, 2-6.	1.3	0
113	Effect of the Surface Roughness of Icy Grains on Molecular Oxygen Chemistry in Molecular Clouds. Astrophysical Journal, 2019, 882, 131.	4.5	0
114	Oxygen Ion Flow Reversals in Earth's Magnetotail: A Cluster Statistical Study. Journal of Geophysical Research: Space Physics, 2019, 124, 8928-8942.	2.4	0
115	In Which Magnetotail Hemisphere is a Satellite? Problems Using in Situ Magnetic Field Data. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028923.	2.4	0
116	Waves and boundaries in plasmas at comets and planets - experimental aspects. , 2021, , .		0
117	Energisation of O+ and O 2 + Ions at Mars: An Analysis of A 3-D Quasi-Neutral Hybrid Model Simulation. , 2007, , 39-62.		0