

S C Buchert

List of Publications by Year in descending order

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123
papers

3,673
citations

159585

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161849

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153
all docs

153
docs citations

153
times ranked

2382
citing authors

#	ARTICLE	IF	CITATIONS
1	Swarm Langmuir probes' data quality validation and future improvements. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2022, 11, 149-162.	1.6	11
2	Solar Flux Influence on the In-situ Plasma Density at Topside Ionosphere Measured by Swarm Satellites. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	2.4	14
3	A Small Peak in the Swarm LP Plasma Density Data at the Dayside Dip Equator. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	2.4	2
4	Lower-thermosphere-ionosphere (LTI) quantities: current status of measuring techniques and models. <i>Annales Geophysicae</i> , 2021, 39, 189-237.	1.6	25
5	Constraining the Positive Ion Composition in Saturn's Lower Ionosphere with the Effective Recombination Coefficient. <i>Planetary Science Journal</i> , 2021, 2, 39.	3.6	4
6	Statistical Analysis of Pc1 Wave Ducting Deduced From Swarm Satellites. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA029016.	2.4	8
7	Characteristics of fragmented aurora-like emissions (FAEs) observed on Svalbard. <i>Annales Geophysicae</i> , 2021, 39, 277-288.	1.6	2
8	Isolated Proton Aurora Driven by EMIC Pc1 Wave: PWING, Swarm, and NOAA POES Multi-Instrument Observations. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL095090.	4.0	7
9	Ionospheric Response at Conjugate Locations During the 7-8 September 2017 Geomagnetic Storm Over the Europe-African Longitude Sector. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA028307.	2.4	22
10	Ionospheric Plasma Density Oscillation Related to EMIC Pc1 Waves. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089000.	4.0	5
11	Traits of sub-kilometre F-region irregularities as seen with the Swarm satellites. <i>Annales Geophysicae</i> , 2020, 38, 243-261.	1.6	17
12	Entangled dynamos and Joule heating in the Earth's ionosphere. <i>Annales Geophysicae</i> , 2020, 38, 1019-1030.	1.6	3
13	Daedalus: a low-flying spacecraft for in situ exploration of the lower thermosphere-ionosphere. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2020, 9, 153-191.	1.6	25
14	Ionospheric irregularities and scintillations: a direct comparison of in situ density observations with ground-based L-band receivers. <i>Earth, Planets and Space</i> , 2020, 72, .	2.5	9
15	Simultaneous ground-based and in situ Swarm observations of equatorial F-region irregularities over Jicamarca. <i>Annales Geophysicae</i> , 2020, 38, 1063-1080.	1.6	9
16	Steve: The Optical Signature of Intense Subauroral Ion Drifts. <i>Geophysical Research Letters</i> , 2019, 46, 6279-6286.	4.0	51
17	Storm Time Global Observations of Large-scale TIDs From Ground-Based and In Situ Satellite Measurements. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 711-724.	2.4	21
18	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.	1.6	95

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19	Solar radio emission as a disturbance of aeronautical radionavigation. Journal of Space Weather and Space Climate, 2018, 8, A42.	3.3	24
20	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.	2.4	9
21	MARSIS Observations of Field-Aligned Irregularities and Ducted Radio Propagation in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 6251-6263.	2.4	2
22	Thermal ion imagers and Langmuir probes in the Swarm electric field instruments. Journal of Geophysical Research: Space Physics, 2017, 122, 2655-2673.	2.4	183
23	Localized field-aligned currents in the polar cap associated with airglow patches. Journal of Geophysical Research: Space Physics, 2016, 121, 10,172-10,189.	2.4	14
24	The science case for the EISCAT_3D radar. Progress in Earth and Planetary Science, 2015, 2, .	3.0	60
25	SWARM observations of equatorial electron densities and topside GPS track losses. Geophysical Research Letters, 2015, 42, 2088-2092.	4.0	66
26	Observation of polar cap patches and calculation of gradient drift instability growth times: A Swarm case study. Geophysical Research Letters, 2015, 42, 201-206.	4.0	43
27	Swarm in situ observations of low-latitude region polar cap patches created by cusp precipitation. Geophysical Research Letters, 2015, 42, 996-1003.	4.0	66
28	Westward tilt of low-latitude plasma blobs as observed by the Swarm constellation. Journal of Geophysical Research: Space Physics, 2015, 120, 3187-3197.	2.4	11
29	Swarm and ESR observations of the ionospheric response to a field-aligned current system in the high-latitude midnight sector. Geophysical Research Letters, 2015, 42, 4270-4279.	4.0	7
30	A dayside plasma depletion observed at midlatitudes during quiet geomagnetic conditions. Geophysical Research Letters, 2015, 42, 967-974.	4.0	19
31	Estimating along-track plasma drift speed from electron density measurements by the three Swarm satellites. Annales Geophysicae, 2015, 33, 829-835.	1.6	5
32	Investigation of energy transport and thermospheric upwelling during quiet magnetospheric and ionospheric conditions from the studies of low- and middle-altitude cusp. Annales Geophysicae, 2015, 33, 623-635.	1.6	2
33	Evidence for the braking of flow bursts as they propagate toward the Earth. Journal of Geophysical Research: Space Physics, 2014, 119, 9004-9018.	2.4	22
34	First results from the Langmuir Probes on the Swarm satellites. , 2014, , .		1
35	Upper atmosphere cooling over the past 33 years. Geophysical Research Letters, 2014, 41, 5629-5635.	4.0	30
36	Relationship between auroral substorm and ion upflow in the nightside polar ionosphere. Journal of Geophysical Research: Space Physics, 2013, 118, 7426-7437.	2.4	7

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37	The evolution of flux pileup regions in the plasma sheet: Cluster observations. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 6279-6290.	2.4	24
38	Plasma angular momentum effects and twisted incoherent scatter radar beams. <i>Radio Science</i> , 2012, 47, .	1.6	7
39	The role of the inner tail to midtail plasma sheet in channeling solar wind power to the ionosphere. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	19
40	On the statistical relation between ion upflow and naturally enhanced ion-acoustic lines observed with the EISCAT Svalbard radar. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	18
41	Detection of currents and associated electric fields in Titan's ionosphere from Cassini data. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	23
42	In situ evidence for interplanetary magnetic field induced tail twisting associated with relative displacement of conjugate auroral features. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	16
43	Energy conversion regions as observed by Cluster in the plasma sheet. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	31
44	Geomagnetic activity effects on plasma sheet energy conversion. <i>Annales Geophysicae</i> , 2010, 28, 1813-1825.	1.6	2
45	Solar activity dependence of ion upflow in the polar ionosphere observed with the European Incoherent Scatter (EISCAT) TromsÅ, UHF radar. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	27
46	On the source of the polar wind in the polar topside ionosphere: First results from the EISCAT Svalbard radar. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	14
47	Characteristics of ion upflow and downflow observed with the European Incoherent Scatter Svalbard radar. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	47
48	Occurrence and location of concentrated load and generator regions observed by Cluster in the plasma sheet. <i>Annales Geophysicae</i> , 2009, 27, 4131-4146.	1.6	14
49	Modulated reconnection rate and energy conversion at the magnetopause under steady IMF conditions. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	24
50	Coordinated EISCAT Svalbard radar and Reimei satellite observations of ion upflows and suprathermal ions. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	24
51	Comparison of local energy conversion estimates from Cluster with global MHD simulations. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	16
52	Magnetosheath Plasma Turbulence and Its Spatiotemporal Evolution as Observed by the Cluster Spacecraft. <i>Physical Review Letters</i> , 2008, 100, 205003.	7.8	55
53	Effects on magnetic reconnection of a density asymmetry across the current sheet. <i>Annales Geophysicae</i> , 2008, 26, 2471-2483.	1.6	63
54	Ion-dispersion and rapid electron fluctuations in the cusp: a case study. <i>Annales Geophysicae</i> , 2008, 26, 2485-2502.	1.6	1

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55	Plasma transport along discrete auroral arcs and its contribution to the ionospheric plasma convection. <i>Annales Geophysicae</i> , 2008, 26, 3279-3293.	1.6	5
56	Towards understanding the electrodynamics of the 3-dimensional high-latitude ionosphere: present and future. <i>Annales Geophysicae</i> , 2008, 26, 3913-3932.	1.6	22
57	The Pedersen current carried by electrons: a non-linear response of the ionosphere to magnetospheric forcing. <i>Annales Geophysicae</i> , 2008, 26, 2837-2844.	1.6	11
58	Energy input from the exterior cusp into the ionosphere: Correlated ground-based and satellite observations. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	11
59	Scale sizes of intense auroral electric fields observed by Cluster. <i>Annales Geophysicae</i> , 2007, 25, 2413-2425.	1.6	19
60	An unusual giant spiral arc in the polar cap region during the northward phase of a Coronal Mass Ejection. <i>Annales Geophysicae</i> , 2007, 25, 507-517.	1.6	9
61	Effect of electrojet irregularities on DC current flow. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	8
62	Structure of the separatrix region close to a magnetic reconnection X-line: Cluster observations. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	88
63	Experimental investigation of auroral generator regions with conjugate Cluster and FAST data. <i>Annales Geophysicae</i> , 2006, 24, 619-635.	1.6	23
64	Observations of concentrated generator regions in the nightside magnetosphere by Cluster/FAST conjunctions. <i>Annales Geophysicae</i> , 2006, 24, 637-649.	1.6	23
65	Naturally enhanced ion-acoustic lines at high altitudes. <i>Annales Geophysicae</i> , 2006, 24, 3351-3364.	1.6	17
66	Preface "The Twelfth EISCAT International Workshop". <i>Annales Geophysicae</i> , 2006, 24, 2331-2331.	1.6	0
67	Dynamics and characteristics of electric-field structures in the auroral return current region observed by Cluster. <i>Physica Scripta</i> , 2006, T122, 34-43.	2.5	7
68	Magnetospheric energy budget during huge geomagnetic activity using Cluster and ground-based data. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	30
69	In situ multi-satellite detection of coherent vortices as a manifestation of Alfvénic turbulence. <i>Nature</i> , 2005, 436, 825-828.	27.8	124
70	A statistical study of intense electric fields at 4~7 R_E geocentric distance using Cluster. <i>Annales Geophysicae</i> , 2005, 23, 2579-2588.	1.6	13
71	Multi-spacecraft determination of wave characteristics near the proton gyrofrequency in high-altitude cusp. <i>Annales Geophysicae</i> , 2005, 23, 983-995.	1.6	47
72	Extreme solar-terrestrial events of October 2003: High-latitude and Cluster observations of the large geomagnetic disturbances on 30 October. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	21

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73	Mean winds, tides, and quasi-2 day wave in the polar lower thermosphere observed in European Incoherent Scatter (EISCAT) 8 day run data in November 2003. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	22
74	Characteristics of quasi-static potential structures observed in the auroral return current region by Cluster. <i>Nonlinear Processes in Geophysics</i> , 2004, 11, 709-720.	1.3	30
75	Cluster observations of high-frequency waves in the exterior cusp. <i>Annales Geophysicae</i> , 2004, 22, 2403-2411.	1.6	22
76	Concerning long-term geomagnetic variations and space climatology. <i>Annales Geophysicae</i> , 2004, 22, 3669-3677.	1.6	42
77	Separating spatial and temporal variations in auroral electric and magnetic fields by Cluster multipoint measurements. <i>Annales Geophysicae</i> , 2004, 22, 2463-2472.	1.6	26
78	Intense high-altitude auroral electric fields - temporal and spatial characteristics. <i>Annales Geophysicae</i> , 2004, 22, 2485-2495.	1.6	31
79	Observations of diverging field-aligned ion flow with the ESR. <i>Annales Geophysicae</i> , 2004, 22, 889-899.	1.6	17
80	Structure of the Magnetic Reconnection Diffusion Region from Four-Spacecraft Observations. <i>Physical Review Letters</i> , 2004, 93, 105001.	7.8	193
81	Thin electron-scale layers at the magnetopause. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	68
82	Cluster observations of lower hybrid turbulence within thin layers at the magnetopause. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	92
83	Transient reconnection in the cusp during strongly negative IMFBy. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	14
84	Temporal evolution of two auroral arcs as measured by the Cluster satellite and coordinated ground-based instruments. <i>Annales Geophysicae</i> , 2004, 22, 4089-4101.	1.6	39
85	Identification of broad-band waves above the auroral acceleration region: Cluster observations. <i>Annales Geophysicae</i> , 2004, 22, 4203-4216.	1.6	6
86	Multi-point electric field measurements of Short Large-Amplitude Magnetic Structures (SLAMS) at the Earth's quasi-parallel bow shock. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	27
87	What high altitude observations tell us about the auroral acceleration: A Cluster/DMSP conjunction. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	27
88	Observations of auroral broadband emissions by CLUSTER. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	22
89	Simultaneous EISCAT Svalbard radar and DMSP observations of ion upflow in the dayside polar ionosphere. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	59
90	Properties of fast magnetosonic shocklets at the bow shock. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	29

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91	Slow Magnetosonic Solitons Detected by the Cluster Spacecraft. <i>Physical Review Letters</i> , 2003, 90, 085002.	7.8	83
92	Relative contribution of ionospheric conductivity and electric field to ionospheric current. <i>Journal of Geophysical Research</i> , 2002, 107, SIA 20-1.	3.3	19
93	Field-aligned ion motions in the E and F regions. <i>Journal of Geophysical Research</i> , 2002, 107, SIA 1-1.	3.3	7
94	Simultaneous high- and low-latitude reconnection: ESR and DMSP observations. <i>Annales Geophysicae</i> , 2002, 20, 1311-1320.	1.6	15
95	Field-aligned currents and ionospheric parameters deduced from EISCAT radar measurements in the post-midnight sector. <i>Annales Geophysicae</i> , 2002, 20, 1335-1348.	1.6	3
96	Generation of atmospheric gravity waves associated with auroral activity in the polar region. <i>Journal of Geophysical Research</i> , 2001, 106, 18543-18554.	3.3	18
97	Plasma density suppression process around the cusp revealed by simultaneous CUTLASS and EISCAT Svalbard radar observations. <i>Journal of Geophysical Research</i> , 2001, 106, 5551-5564.	3.3	18
98	Naturally enhanced ion acoustic fluctuations seen at different wavelengths. <i>Journal of Geophysical Research</i> , 2001, 106, 21503-21515.	3.3	11
99	Temporal evolution of the electric field accelerating electrons away from the auroral ionosphere. <i>Nature</i> , 2001, 414, 724-727.	27.8	132
100	Observation of isotropic electron temperature in the turbulent E region. <i>Annales Geophysicae</i> , 2001, 19, 11-15.	1.6	6
101	Ion upflow and downflow at the topside ionosphere observed by the EISCAT VHF radar. <i>Annales Geophysicae</i> , 2000, 18, 170-181.	1.6	24
102	Effects of atmospheric oscillations on the field-aligned ion motions in the polar F-region. <i>Annales Geophysicae</i> , 2000, 18, 1154-1163.	1.6	5
103	Effects of a kappa distribution function of electrons on incoherent scatter spectra. <i>Annales Geophysicae</i> , 2000, 18, 1216-1223.	1.6	45
104	Frequency dependent power fluctuations: a feature of the ESR system or physical?. <i>Annales Geophysicae</i> , 2000, 18, 1224-1230.	1.6	2
105	First measurements of tidal modes in the lower thermosphere by the EISCAT Svalbard radar. <i>Geophysical Research Letters</i> , 2000, 27, 931-934.	4.0	9
106	Simultaneous EISCAT Svalbard and VHF radar observations of ion upflows at different aspect angles. <i>Geophysical Research Letters</i> , 2000, 27, 81-84.	4.0	50
107	Concerning the generation of geomagnetic giant pulsations by drift-bounce resonance ring current instabilities. <i>Annales Geophysicae</i> , 1999, 17, 338-350.	1.6	63
108	Ionospheric conductivity modulation in ULF pulsations. <i>Journal of Geophysical Research</i> , 1999, 104, 10119-10133.	3.3	17

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109	Ionospheric conductance distribution and MHD wave structure: observation and model. <i>Annales Geophysicae</i> , 1998, 16, 140-147.	1.6	21
110	Magneto-optical Kerr effect for a dissipative plasma. <i>Journal of Plasma Physics</i> , 1998, 59, 39-55.	2.1	8
111	On the Pedersen Current Which is Carried by Electrons. <i>Astrophysics and Space Science Library</i> , 1998, , 485-489.	2.7	1
112	Field-aligned current distributions generated by a divergent Hall current. <i>Geophysical Research Letters</i> , 1997, 24, 297-300.	4.0	17
113	THE CLUSTER MAGNETIC FIELD INVESTIGATION. <i>Space Science Reviews</i> , 1997, 79, 65-91.	8.1	287
114	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
115	Optical and radar observations of auroral arcs with emphasis on small-scale structures. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1996, 58, 71-83.	0.9	37
116	Auroral-arc splitting by intrusion of a new convection channel. <i>Annales Geophysicae</i> , 1996, 14, 1257-1264.	1.6	1
117	Occurrence of an ion-ion two-stream driven wave mode in the ionosphere. <i>Advances in Space Research</i> , 1996, 17, 235-240.	2.6	6
118	On the proper motion of auroral arcs. <i>Journal of Geophysical Research</i> , 1993, 98, 6087-6099.	3.3	77
119	Incoherent scatter radar spectrum distortions from intense auroral turbulence. <i>Journal of Geophysical Research</i> , 1993, 98, 9459-9471.	3.3	16
120	Non-Maxwellian ion velocity distributions and their effects on the interpretation of the incoherent scatter spectra. <i>Advances in Space Research</i> , 1992, 12, 235-239.	2.6	0
121	A model for the electric fields and currents during a strong Ps 6 pulsation event. <i>Journal of Geophysical Research</i> , 1990, 95, 3733-3743.	3.3	26
122	Extreme ionospheric effects in the presence of high electric fields. <i>Nature</i> , 1988, 333, 438-440.	27.8	6
123	Magnetometer and incoherent scatter observations of an intense Ps 6 pulsation event. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1988, 50, 357-367.	0.9	23