Charles W Smith

List of Publications by Year
in descending order

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120 papers	6,756 citations	71102 41 h-index	62596 80 g-index
124 all docs	124 docs citations	124 times ranked	2046 citing authors

#	Article	IF	Citations
1	Observational constraints on the dynamics of the interplanetary magnetic field dissipation range. Journal of Geophysical Research, 1998, 103, 4775-4787.	3.3	658
2	Proton and electron mean free paths: The Palmer consensus revisited. Astrophysical Journal, 1994, 420, 294.	4.5	614
3	Dissipation range dynamics: Kinetic AlfvÃ©n waves and the importance of Î²e. Journal of Geophysical Research, 1999, 104, 22331-22344.	3.3	308
4	Dependence of the Dissipation Range Spectrum of Interplanetary Magnetic Fluctuationson the Rate of Energy Cascade. Astrophysical Journal, 2006, 645, L85-L88.	4.5	289
5	Heating of the low-latitude solar wind by dissipation of turbulent magnetic fluctuations. Journal of Geophysical Research, 2001, 106, 8253-8272.	3.3	256
6	Electromagnetic ion beam instabilities. Physics of Fluids, 1984, 27, 1852.	1.4	231
7	The Turbulent Cascade at 1 AU: Energy Transfer and the Thirdâ€Order Scaling for MHD. Astrophysical Journal, 2008, 679, 1644-1660.	4.5	180
8	Evaluation of the turbulent energy cascade rates from the upper inertial range in the solar wind at 1 AU. Journal of Geophysical Research, 2007, 112, .	3.3	149
9	Contribution of Cyclotron-resonant Damping to Kinetic Dissipation of Interplanetary Turbulence. Astrophysical Journal, 1998, 507, L181-L184.	4.5	144
10	Turbulent Heating of the Solar Wind by Newborn Interstellar Pickup Protons. Astrophysical Journal, 2006, 638, 508-517.	4.5	144
11	Excitation of poloidal standing AlfvÃ©n waves through drift resonance waveâ€particle interaction. Geophysical Research Letters, 2013, 40, 4127-4132.	4.0	134
12	THE TURBULENT CASCADE AND PROTON HEATING IN THE SOLAR WIND AT 1 AU. Astrophysical Journal, 2009, 697, 1119-1127.	4.5	114
13	Solar cycle variation of the interplanetary magnetic field spiral. Astrophysical Journal, 1991, 370, 435.	4.5	114
14	Proton temperature anisotropy constraint in the solar wind: ACE observations. Geophysical Research Letters, 2001, 28, 2759-2762.	4.0	113
15	Shortâ€wavelength turbulence in the solar wind: Linear theory of whistler and kinetic AlfvÃ©n fluctuations. Journal of Geophysical Research, 2009, 114, .	3.3	113
16	Numerous small magnetic field discontinuities of Bartels rotation 2286 and the potential role of AlfvÃ©nic turbulence. Journal of Geophysical Research, 2007, 112, .	3.3	111
17	Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. Astrophysical Journal, 2003, 592, 564-573.	4.5	104
18	Anisotropies and helicities in the solar wind inertial and dissipation ranges at 1 AU. Journal of Geophysical Research, 2008, 113, .	3.3	97

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19	Statistical Analysis of the Highâ€Frequency Spectral Break of the Solar Wind Turbulence at 1 AU. Astrophysical Journal, 2008, 675, 1576-1583.	4.5	91
20	SPECTRAL INDICES FOR MULTI-DIMENSIONAL INTERPLANETARY TURBULENCE AT 1 AU. Astrophysical Journal, 2009, 692, 684-693.	4.5	89
21	Interplanetary coronal mass ejections from MESSENGER orbital observations at Mercury. Journal of Geophysical Research: Space Physics, 2015, 120, 6101-6118.	2.4	88
22	Turbulence analysis of the Jovian upstream â€˜waveâ€™ phenomenon. Journal of Geophysical Research, 1983, 88, 5581-5593.	3.3	85
23	Interplanetary magnetic fluctuation anisotropy in the inertial range. Journal of Geophysical Research, 2006, 111, .	3.3	84
24	Day the solar wind almost disappeared: Magnetic field fluctuations, wave refraction and dissipation. Journal of Geophysical Research, 2001, 106, 18625-18634.	3.3	77
25	Longâ€term variations of interplanetary magnetic field spectra with implications for cosmic ray modulation. Journal of Geophysical Research, 1993, 98, 3585-3603.	3.3	76
26	Dissipation of the Perpendicular Turbulent Cascade in the Solar Wind. Astrophysical Journal, 2006, 639, 1177-1185.	4.5	73
27	OBSERVATIONAL CONSTRAINTS ON THE ROLE OF CYCLOTRON DAMPING AND KINETIC ALFVÃ‰N WAVES IN THE SOLAR WIND. Astrophysical Journal, 2012, 745, 8.	4.5	73
28	The radial temperature profile of the solar wind. Geophysical Research Letters, 2003, 30, n/a-n/a.	4.0	71
29	Largeâ€amplitude MHD waves upstream of the Jovian bow shock: Reinterpretation. Journal of Geophysical Research, 1985, 90, 302-310.	3.3	68
30	Storm time occurrence and spatial distribution of Pc4 poloidal ULF waves in the inner magnetosphere: A Van Allen Probes statistical study. Journal of Geophysical Research: Space Physics, 2015, 120, 4748-4762.	2.4	66
31	Turbulent Cascade at 1ÂAU in High Cross-Helicity Flows. Physical Review Letters, 2009, 103, 201101.	7.8	62
32	Third-moment descriptions of the interplanetary turbulent cascade, intermittency and back transfer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140150.	3.4	60
33	TURBULENT HEATING OF THE DISTANT SOLAR WIND BY INTERSTELLAR PICKUP PROTONS IN A DECELERATING FLOW. Astrophysical Journal, 2010, 719, 716-721.	4.5	57
34	Solar wind alpha particles and heavy ions in the inner heliosphere observed with MESSENGER. Journal of Geophysical Research, 2012, 117, .	3.3	54
35	Large amplitude MHD waves upstream of the Jovian bow shock. Journal of Geophysical Research, 1983, 88, 9989-9999.	3.3	52
36	Slowing of the Solar Wind in the Outer Heliosphere. Astrophysical Journal, 2019, 885, 156.	4.5	47

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37	Characteristics of magnetic fluctuations within coronal mass ejections: The January 1997 event. Geophysical Research Letters, 1998, 25, 2505-2508.	4.0	46
38	THE TURBULENT CASCADE FOR HIGH CROSS-HELICITY STATES AT 1 AU. Astrophysical Journal, 2010, 713, 920-934.	4.5	46
39	THE TURBULENT CASCADE AND PROTON HEATING IN THE SOLAR WIND DURING SOLAR MINIMUM. Astrophysical Journal, 2012, 754, 93.	4.5	45
40	Externally driven plasmaspheric ULF waves observed by the Van Allen Probes. Journal of Geophysical Research: Space Physics, 2015, 120, 526-552.	2.4	44
41	Cosmic-ray pitch-angle scattering in isotropic turbulence. Astrophysical Journal, 1988, 334, 470.	4.5	41
42	Dynamical age of solar wind turbulence in the outer heliosphere. Journal of Geophysical Research, 1998, 103, 6495-6502.	3.3	38
43	Inertialâ€range anisotropies in the solar wind from 0.3 to 1 AU: Helios 1 observations. Journal of Geophysical Research, 2010, 115, .	3.3	34
44	ULYSSESOBSERVATIONS OF MAGNETIC WAVES DUE TO NEWBORN INTERSTELLAR PICKUP IONS. I. NEW OBSERVATIONS AND LINEAR ANALYSIS. Astrophysical Journal, 2014, 784, 150.	4.5	34
45	EXCITATION OF LOW-FREQUENCY WAVES IN THE SOLAR WIND BY NEWBORN INTERSTELLAR PICKUP IONS H⁺AND He⁺AS SEEN BY VOYAGER AT 4.5 AU. Astrophysical Journal, 2010, 724, 1256-1261.	4.5	33
46	ULYSSESOBSERVATIONS OF MAGNETIC WAVES DUE TO NEWBORN INTERSTELLAR PICKUP IONS. II. APPLICATION OF TURBULENCE CONCEPTS TO LIMITING WAVE ENERGY AND OBSERVABILITY. Astrophysical Journal, 2014, 787, 133.	4.5	33
47	Beamâ€driven ion cyclotron harmonic resonances in the terrestrial foreshock. Journal of Geophysical Research, 1985, 90, 1429-1434.	3.3	32
48	The role of coronal mass ejections and interplanetary shocks in interplanetary magnetic field statistics and solar magnetic flux ejection. Journal of Geophysical Research, 1997, 102, 249-261.	3.3	32
49	Cosmic-ray pitch angle scattering in isotropic turbulence. II - Sensitive dependence on the dissipation range spectrum. Astrophysical Journal, 1990, 363, 283.	4.5	32
50	THIRD MOMENTS AND THE ROLE OF ANISOTROPY FROM VELOCITY SHEAR IN THE SOLAR WIND. Astrophysical Journal, 2011, 736, 44.	4.5	31
51	Multiple spacecraft survey of the northâ€south asymmetry of the interplanetary magnetic field. Journal of Geophysical Research, 1993, 98, 9401-9415.	3.3	30
52	VARIABLE CASCADE DYNAMICS AND INTERMITTENCY IN THE SOLAR WIND AT 1 AU. Astrophysical Journal, 2014, 786, 52.	4.5	29
53	An analysis of AlfvÃ©n radius based on sunspot number from 1749 to today. Journal of Geophysical Research: Space Physics, 2014, 119, 115-120.	2.4	29
54	VOYAGER OBSERVATIONS OF MAGNETIC WAVES DUE TO NEWBORN INTERSTELLAR PICKUP IONS: 2â€“6 au. Astrophysical Journal, 2016, 822, 94.	4.5	29

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55	INTERPLANETARY MAGNETIC FLUX DEPLETION DURING PROTRACTED SOLAR MINIMA. Astrophysical Journal, 2011, 727, 8.	4.5	27
56	Some Properties of the Solar Wind Turbulence at 1 AU Statistically Examined in the Different Types of Solar Wind Plasma. Journal of Geophysical Research: Space Physics, 2019, 124, 2406-2424.	2.4	27
57	Thermal anisotropies in the solar wind: Evidence of heating by interstellar pickup ions?. Geophysical Research Letters, 1996, 23, 3259-3262.	4.0	25
58	OBSERVATION OF BERNSTEIN WAVES EXCITED BY NEWBORN INTERSTELLAR PICKUP IONS IN THE SOLAR WIND. Astrophysical Journal, 2012, 745, 112.	4.5	25
59	An analysis of heliospheric magnetic field flux based on sunspot number from 1749 to today and prediction for the coming solar minimum. Journal of Geophysical Research: Space Physics, 2013, 118, 7525-7531.	2.4	25
60	Signatures of AlfvÃ©n-cyclotron wave-ion scattering: Advanced Composition Explorer (ACE) solar wind observations. Journal of Geophysical Research, 2005, 110, .	3.3	24
61	Van Allen Probes Observation of a Fundamental Poloidal Standing AlfvÃ©n Wave Event Related to Giant Pulsations. Journal of Geophysical Research: Space Physics, 2018, 123, 4574-4593.	2.4	24
62	DECLINE AND RECOVERY OF THE INTERPLANETARY MAGNETIC FIELD DURING THE PROTRACTED SOLAR MINIMUM. Astrophysical Journal, 2013, 775, 59.	4.5	23
63	Coupled hydromagnetic wave excitation and ion acceleration upstream of the Jovian bow shock. Journal of Geophysical Research, 1986, 91, 81-90.	3.3	22
64	A SURVEY OF MAGNETIC WAVES EXCITED BY NEWBORN INTERSTELLAR He⁺ OBSERVED BY THE ACE SPACECRAFT AT 1 au. Astrophysical Journal, 2016, 830, 47.	4.5	22
65	Magnetic Waves Excited by Newborn Interstellar Pickup Ions Measured by the Voyager Spacecraft from 1 to 45 au. II. Instability and Turbulence Analyses. Astrophysical Journal, 2018, 863, 76.	4.5	22
66	Solar Wind Turbulence from 1 to 45 au. IV. Turbulent Transport and Heating of the Solar Wind Using Voyager Observations. Astrophysical Journal, 2020, 900, 94.	4.5	22
67	Automated shock detection and analysis algorithm for space weather application. Space Weather, 2008, 6, .	3.7	21
68	Magnetic Waves Excited by Newborn Interstellar Pickup Ions Measured by the Voyager Spacecraft from 1 to 45 au. I. Wave Properties. Astrophysical Journal, 2018, 863, 75.	4.5	21
69	Observation and Numerical Simulation of Cavity Mode Oscillations Excited by an Interplanetary Shock. Journal of Geophysical Research: Space Physics, 2018, 123, 1969-1988.	2.4	21
70	Measurement of the acoustic nonlinearity parameter in water, methanol, liquid nitrogen, and liquid heliumâ€‖ by two different methods: A comparison. Journal of the Acoustical Society of America, 1987, 82, 2086-2089.	1.1	20
71	Whistler waves associated with the Uranian bow shock: Outbound observations. Journal of Geophysical Research, 1991, 96, 15841-15852.	3.3	20
72	Solar Wind Turbulence from 1 to 45 au. III. Anisotropy of Magnetic Fluctuations in the Inertial Range Using Voyager and ACE Observations. Astrophysical Journal, 2020, 900, 93.	4.5	20

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73	Electromagnetic ion beam instabilities: Growth at cyclotron harmonic wave numbers. Journal of Geophysical Research, 1987, 92, 117-125.	3.3	19
74	STATISTICAL ANALYSIS OF THE MAGNETIC HELICITY SIGNATURE OF THE SOLAR WIND TURBULENCE AT 1 AU. Astrophysical Journal, 2015, 806, 78.	4.5	19
75	Solar Wind Turbulence from 1 to 45 au. I. Evidence for Dissipation of Magnetic Fluctuations Using Voyager and ACE Observations. Astrophysical Journal, 2020, 900, 91.	4.5	18
76	Electron beam excitation of upstream waves in the whistler mode frequency range. Journal of Geophysical Research, 1994, 99, 13373.	3.3	17
77	Propagation of ULF waves from the upstream region to the midnight sector of the inner magnetosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 8428-8447.	2.4	17
78	ACE observations of magnetic waves arising from newborn interstellar pickup helium ions. Geophysical Research Letters, 2015, 42, 9617-9623.	4.0	16
79	Magnetic Waves Excited by Newborn Interstellar Pickup Ions Measured by the Voyager Spacecraft from 1 to 45 au. III. Observation Times. Astrophysical Journal, Supplement Series, 2018, 237, 34.	7.7	16
80	Further evidence of wave refraction associated with extended rarefaction events in the solar wind. Journal of Geophysical Research, 2004, 109, .	3.3	15
81	Turbulence associated with corotating interaction regions at 1 AU: Inertial and dissipation range magnetic field spectra. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	15
82	Observation of Magnetic Waves Excited by Newborn Interstellar Pickup He+ Observed by the Voyager 2 Spacecraft at 30 au. Astrophysical Journal, 2017, 849, 61.	4.5	15
83	Correlation Scales of the Turbulent Cascade at 1 au. Astrophysical Journal, 2018, 858, 21.	4.5	15
84	Whistler wave bursts upstream of the Uranian bow shock. Journal of Geophysical Research, 1989, 94, 17035-17048.	3.3	14
85	Proton temperature change with heliocentric distance from 0.3 to 1 AU according to relative temperatures. Journal of Geophysical Research: Space Physics, 2014, 119, 3267-3280.	2.4	14
86	The heliospheric magnetic flux, solar wind proton flux, and cosmic ray intensity during the coming solar minimum. Space Weather, 2014, 12, 499-507.	3.7	14
87	Inferring the Heliospheric Magnetic Field Back through Maunder Minimum. Astrophysical Journal, 2017, 837, 165.	4.5	14
88	Driving and Dissipation of Solar-Wind Turbulence: What is the Evidence?. Frontiers in Astronomy and Space Sciences, 2021, 7, .	2.8	14
89	Solar Wind Turbulence from 1 to 45 au. II. Analysis of Inertial-range Fluctuations Using Voyager and ACE Observations. Astrophysical Journal, 2020, 900, 92.	4.5	14
90	THE FLUX OF OPEN AND TOROIDAL INTERPLANETARY MAGNETIC FIELD AS A FUNCTION OF HELIOLATITUDE AND SOLAR CYCLE. Astrophysical Journal, 2009, 695, 357-362.	4.5	13

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91	Listing of 502 Times When the Ulysses Magnetic Fields Instrument Observed Waves Due to Newborn Interstellar Pickup Protons. Astrophysical Journal, 2017, 840, 13.	4.5	13
92	Observations of Low-Frequency Magnetic Waves due to Newborn Interstellar Pickup Ions Using ACE, Ulysses, and Voyager Data. Journal of Physics: Conference Series, 2017, 900, 012018.	0.4	13
93	Interstellar Neutrals, Pickup Ions, and Energetic Neutral Atoms Throughout the Heliosphere: Present Theory and Modeling Overview. Space Science Reviews, 2022, 218, 1.	8.1	13
94	Roles of Flow Braking, Plasmaspheric Virtual Resonances, and Ionospheric Currents in Producing Ground Pi2 Pulsations. Journal of Geophysical Research: Space Physics, 2018, 123, 9187-9203.	2.4	12
95	Alfven waves and associated energetic ions downstream from Uranus. Journal of Geophysical Research, 1991, 96, 1647-1660.	3.3	11
96	Magnetic helicity in the solar wind. Advances in Space Research, 2003, 32, 1971-1980.	2.6	11
97	Turbulence associated with corotating interaction regions at 1AU: Inertial range cross-helicity spectra. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	11
98	Turbulence in space plasmas. , 2009, , 163-194.		10
99	Use of singleâ€component wind speed in Rankineâ€Hugoniot analysis of interplanetary shocks. Space Weather, 2011, 9, .	3.7	9
100	Multifrequency compressional magnetic field oscillations and their relation to multiharmonic toroidal mode standing AlfvÃ©n waves. Journal of Geophysical Research: Space Physics, 2015, 120, 10,384.	2.4	9
101	The Turbulence Magnetic Helicity Signature in the Interplanetary Medium: A Blackmanâ€“Tukey and Morlet Wavelet Analysis. Astrophysical Journal, 2018, 855, 121.	4.5	9
102	THE EFFECT OF ELECTRON THERMAL PRESSURE ON THE OBSERVED MAGNETIC HELICITY IN THE SOLAR WIND. Astrophysical Journal, 2016, 833, 212.	4.5	7
103	SmithetÂal.Reply:. Physical Review Letters, 2010, 104, .	7.8	6
104	Anisotropy of shockâ€accelerated ion distributions in interplanetary space. Journal of Geophysical Research, 1989, 94, 5474-5478.	3.3	5
105	Solar wind magnetic field discontinuities and turbulence generated current layers. AIP Conference Proceedings, 2013, , .	0.4	5
106	Data analysis strategies for the characterization of normal: superconductor point contacts by barrier strength parameter. Journal of Applied Physics, 1993, 73, 4439-4443.	2.5	4
107	Comment on â€œThe underlying magnetic field direction in Ulysses observations of the southern polar heliosphereâ€•by Forsyth et al.. Geophysical Research Letters, 1996, 23, 3279-3280.	4.0	4
108	Turbulence spectrum of interplanetary magnetic fluctuations and the rate of energy cascade. AIP Conference Proceedings, 2007, , .	0.4	4

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109	Advanced Composition Explorer Observations of Turbulence from 1998 through 2002: Data Intervals. Astrophysical Journal, Supplement Series, 2020, 250, 15.	7.7	4
110	High-latitude Observations of Inertial-range Turbulence by the Ulysses Spacecraft During the Solar Minimum of 1993â€“96. Astrophysical Journal, 2022, 927, 43.	4.5	4
111	Low-frequency Waves due to Newborn Interstellar Pickup He⁺ Observed by the Ulysses Spacecraft. Astrophysical Journal, 2021, 923, 185.	4.5	4
112	Solar-Cycle, Radial and Latitudinal Variations of Magnetic Helicity: IMF Observations. Geophysical Monograph Series, 2013, , 239-245.	0.1	3
113	Preliminary analysis of magnetic waves due to newborn interstellar pickup ions. AIP Conference Proceedings, 2013, , .	0.4	2
114	Solar Wind Turbulence from 1 to 45 au. V. Data Intervals from the Voyager Observations. Astrophysical Journal, Supplement Series, 2020, 250, 14.	7.7	2
115	Tokarâ€™s question: Surface tension vs buoyancy. Physics Teacher, 2001, 39, 69-70.	0.3	1
116	A Two-component Transport Model for Solar Wind Fluctuations: Waves plus Quasi-2D Turbulence. , 2010, , .		1
117	Inelastic scattering in normal metal/superconductor point contacts. European Physical Journal D, 1996, 46, 1327-1328.	0.4	0
118	Anomalous temperature dependence of the Andreev peak for Ag/Nd1.85Ce0.15CuO4â˜Î´ point contacts. Physica B: Condensed Matter, 1996, 218, 202-204.	2.7	0
119	Correlation Scales of the Turbulent Cascade at 1 AU. Journal of Physics: Conference Series, 2018, 1100, 012023.	0.4	0
120	Three-dimensional Hybrid Simulation Results of a Variable Magnetic Helicity Signature at Proton Kinetic Scales. Astrophysical Journal, 2022, 924, 41.	4.5	0