Daniel Verscharen

List of Publications by Year
in descending order

92 papers	2,184 citations	257450 24 h-index	265206 42 g-index
115 all docs	115 docs citations	115 times ranked	1275 citing authors

#	Article	IF	Citations
1	The multi-scale nature of the solar wind. Living Reviews in Solar Physics, 2019, 16, 5.	22.0	226
2	The Solar Orbiter Solar Wind Analyser (SWA) suite. Astronomy and Astrophysics, 2020, 642, A16.	5.1	141
3	PARTICLE-IN-CELL SIMULATIONS OF CONTINUOUSLY DRIVEN MIRROR AND ION CYCLOTRON INSTABILITIES IN HIGH BETA ASTROPHYSICAL AND HELIOSPHERIC PLASMAS. Astrophysical Journal, 2015, 800, 27.	4.5	76
4	Kinetic cascade beyond magnetohydrodynamics of solar wind turbulence in two-dimensional hybrid simulations. Physics of Plasmas, 2012, 19, .	1.9	72
5	The Role of Proton Cyclotron Resonance as a Dissipation Mechanism in Solar Wind Turbulence: A Statistical Study at Ion-kinetic Scales. Astrophysical Journal, 2018, 856, 49.	4.5	68
6	The Solar Orbiter Science Activity Plan. Astronomy and Astrophysics, 2020, 642, A3.	5.1	67
7	INSTABILITIES DRIVEN BY THE DRIFT AND TEMPERATURE ANISOTROPY OF ALPHA PARTICLES IN THE SOLAR WIND. Astrophysical Journal, 2013, 773, 163.	4.5	59
8	Self-induced Scattering of Strahl Electrons in the Solar Wind. Astrophysical Journal, 2019, 886, 136.	4.5	54
9	COLLISIONLESS ISOTROPIZATION OF THE SOLAR-WIND PROTONS BY COMPRESSIVE FLUCTUATIONS AND PLASMA INSTABILITIES. Astrophysical Journal, 2016, 831, 128.	4.5	53
10	On Kinetic Slow Modes, Fluid Slow Modes, and Pressure-balanced Structures in the Solar Wind. Astrophysical Journal, 2017, 840, 106.	4.5	53
11	A Quarter Century ofWindSpacecraft Discoveries. Reviews of Geophysics, 2021, 59, e2020RG000714.	23.0	52
12	STOCHASTIC HEATING, DIFFERENTIAL FLOW, AND THE ALPHA-TO-PROTON TEMPERATURE RATIO IN THE SOLAR WIND. Astrophysical Journal, 2013, 776, 45.	4.5	50
13	LIMITS ON ALPHA PARTICLE TEMPERATURE ANISOTROPY AND DIFFERENTIAL FLOW FROM KINETIC INSTABILITIES: SOLAR WIND OBSERVATIONS. Astrophysical Journal Letters, 2013, 777, L3.	8.3	50
14	THE DISPERSION RELATIONS AND INSTABILITY THRESHOLDS OF OBLIQUE PLASMA MODES IN THE PRESENCE OF AN ION BEAM. Astrophysical Journal, 2013, 764, 88.	4.5	48
15	A PARALLEL-PROPAGATING ALFVÃ‰NIC ION-BEAM INSTABILITY IN THE HIGH-BETA SOLAR WIND. Astrophysical Journal, 2013, 773, 8.	4.5	46
16	PIC SIMULATIONS OF THE EFFECT OF VELOCITY SPACE INSTABILITIES ON ELECTRON VISCOSITY AND THERMAL CONDUCTION. Astrophysical Journal, 2016, 824, 123.	4.5	42
17	NHDS: The New Hampshire Dispersion Relation Solver. Research Notes of the AAS, 2018, 2, 13.	0.7	41
18	Apparent temperature anisotropies due to wave activity in the solar wind. Annales Geophysicae, 2011, 29, 909-917.	1.6	38

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19	Direct Measurement of the Dissipation Rate Spectrum around Ion Kinetic Scales in Space Plasma Turbulence. Astrophysical Journal, 2019, 880, 121.	4.5	38
20	Parallel-propagating Fluctuations at Proton-kinetic Scales in the Solar Wind Are Dominated By Kinetic Instabilities. Astrophysical Journal Letters, 2019, 884, L53.	8.3	38
21	Spectra of Diffusion, Dispersion, and Dissipation for Kinetic AlfvÃ©nic and Compressive Turbulence: Comparison between Kinetic Theory and Measurements from MMS. Astrophysical Journal, 2020, 898, 43.	4.5	36
22	Determining the Kappa Distributions of Space Plasmas from Observations in a Limited Energy Range. Astrophysical Journal, 2018, 864, 3.	4.5	32
23	The electron distribution function downstream of the solar-wind termination shock: Where are the hot electrons?. Astronomy and Astrophysics, 2015, 579, A18.	5.1	29
24	A MODIFIED VERSION OF TAYLORâ€™S HYPOTHESIS FOR SOLAR PROBE PLUS OBSERVATIONS. Astrophysical Journal Letters, 2015, 801, L18.	8.3	25
25	Stochastic proton heating by kinetic-AlfvÃ©n-wave turbulence in moderately high- plasmas. Journal of Plasma Physics, 2018, 84, .	2.1	25
26	Exploring the Solar Wind from Its Source on the Corona into the Inner Heliosphere during the First Solar Orbiterâ€“Parker Solar Probe Quadrature. Astrophysical Journal Letters, 2021, 920, L14.	8.3	25
27	DECELERATION OF ALPHA PARTICLES IN THE SOLAR WIND BY INSTABILITIES AND THE ROTATIONAL FORCE: IMPLICATIONS FOR HEATING, AZIMUTHAL FLOW, AND THE PARKER SPIRAL MAGNETIC FIELD. Astrophysical Journal, 2015, 806, 157.	4.5	24
28	Spectral evolution of two-dimensional kinetic plasma turbulence in the wavenumber-frequency domain. Physics of Plasmas, 2013, 20, .	1.9	22
29	Evolution of the Earthâ€™s Magnetosheath Turbulence: A Statistical Study Based on MMS Observations. Astrophysical Journal Letters, 2020, 898, L43.	8.3	22
30	Parametric decay of oblique AlfvÃ©n waves in two-dimensional hybrid simulations. Physical Review E, 2012, 86, 027401.	2.1	21
31	Polytropic Behavior of Solar Wind Protons Observed by Parker Solar Probe. Astrophysical Journal, 2020, 901, 26.	4.5	21
32	Wave Composition, Propagation, and Polarization of Magnetohydrodynamic Turbulence within 0.3 au as Observed by Parker Solar Probe. Astrophysical Journal Letters, 2020, 901, L3.	8.3	21
33	Composition of Wave Modes in Magnetosheath Turbulence from Sub-ion to Sub-electron Scales. Astrophysical Journal, 2019, 878, 48.	4.5	20
34	A Quasi-linear Diffusion Model for Resonant Waveâ€“Particle Instability in Homogeneous Plasma. Astrophysical Journal, 2020, 902, 128.	4.5	20
35	Angular Independence of Break Position for Magnetic Power Spectral Density in Solar Wind Turbulence. Astrophysical Journal, 2018, 865, 89.	4.5	19
36	ALPS: the Arbitrary Linear Plasma Solver. Journal of Plasma Physics, 2018, 84, .	2.1	19

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37	Three-dimensional magnetic reconnection in particle-in-cell simulations of anisotropic plasma turbulence. Journal of Plasma Physics, 2021, 87, .	2.1	19
38	The Fluid-like and Kinetic Behavior of Kinetic AlfvÃ©n Turbulence in Space Plasma. Astrophysical Journal, 2019, 870, 106.	4.5	18
39	The Impact of Turbulent Solar Wind Fluctuations on Solar Orbiter Plasma Proton Measurements. Astrophysical Journal, 2019, 886, 101.	4.5	18
40	Scale-dependent Polarization of Solar Wind Velocity Fluctuations at the Inertial and Kinetic Scales. Astrophysical Journal, 2019, 870, 40.	4.5	18
41	Flux conservation, radial scalings, Mach numbers, and critical distances in the solar wind: magnetohydrodynamics and Ulysses observations. Monthly Notices of the Royal Astronomical Society, 2021, 506, 4993-5004.	4.4	17
42	Coordination of the in situ payload of Solar Orbiter. Astronomy and Astrophysics, 2020, 642, A5.	5.1	17
43	Strong Perpendicular Velocity-space Diffusion in Proton Beams Observed by Parker Solar Probe. Astrophysical Journal, 2022, 924, 112.	4.5	16
44	A kinetic description of the dissipative quasi-parallel solar wind termination shock. Astronomy and Astrophysics, 2008, 487, 723-729.	5.1	15
45	PIC Simulations of Velocity-space Instabilities in a Decreasing Magnetic Field: Viscosity and Thermal Conduction. Astrophysical Journal, 2018, 854, 132.	4.5	15
46	Radial Evolution of Thermal and Suprathermal Electron Populations in the Slow Solar Wind from 0.13 to 0.5 au: Parker Solar Probe Observations. Astrophysical Journal, 2022, 931, 118.	4.5	15
47	On nonlinear AlfvÃ©n-cyclotron waves in multi-species plasma. Journal of Plasma Physics, 2011, 77, 385-403.	2.1	14
48	Ambipolar Electric Field and Potential in the Solar Wind Estimated from Electron Velocity Distribution Functions. Astrophysical Journal, 2021, 921, 83.	4.5	14
49	Traveling solar-wind bulk-velocity fluctuations and their effects on electron heating in the heliosphere. Astronomy and Astrophysics, 2014, 571, A78.	5.1	13
50	First Solar Orbiter observation of the AlfvÃ©nic slow wind and identification of its solar source. Astronomy and Astrophysics, 2021, 656, A21.	5.1	13
51	MagneToRE: Mapping the 3-D Magnetic Structure of the Solar Wind Using a Large Constellation of Nanosatellites. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	13
52	Electrons under the dominant action of shock-electric fields. Astronomy and Astrophysics, 2016, 587, L1.	5.1	12
53	Determining the Bulk Parameters of Plasma Electrons from Pitch-Angle Distribution Measurements. Entropy, 2020, 22, 103.	2.2	12
54	Whistler instability driven by the sunward electron deficit in the solar wind. Astronomy and Astrophysics, 2021, 656, A31.	5.1	12

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55	Magnetic reconnection as a mechanism to produce multiple thermal proton populations and beams locally in the solar wind. Astronomy and Astrophysics, 2021, 656, A37.	5.1	12
56	Multiscale views of an AlfvÃ©nic slow solar wind: 3D velocity distribution functions observed by the Proton-Alpha Sensor of Solar Orbiter. Astronomy and Astrophysics, 2021, 656, A36.	5.1	12
57	A Case for Electron-Astrophysics. Experimental Astronomy, 0, , 1.	3.7	11
58	EFFECTS OF ELECTRON DRIFTS ON THE COLLISIONLESS DAMPING OF KINETIC ALFVÃ‰N WAVES IN THE SOLAR WIND. Astrophysical Journal Letters, 2015, 804, L36.	8.3	10
59	Injection to the pick-up ion regime from high energies and induced ion power-laws. Astronomy and Astrophysics, 2009, 505, 329-337.	5.1	9
60	Compressive high-frequency waves riding on an AlfvÃ©n/ion-cyclotron wave in a multi-fluid plasma. Journal of Plasma Physics, 2011, 77, 693-707.	2.1	9
61	A step closer to the Sunâ€™s secrets. Nature, 2019, 576, 219-220.	27.8	9
62	Dependence of Solar Wind Proton Temperature on the Polarization Properties of AlfvÃ©nic Fluctuations at Ion-kinetic Scales. Astrophysical Journal, 2021, 912, 101.	4.5	9
63	Possible coexistence of kinetic AlfvÃ©n and ion Bernstein modes in sub-ion scale compressive turbulence in the solar wind. Physical Review Research, 2020, 2, .	3.6	9
64	Magnetic Energy Transfer and Distribution between Protons and Electrons for AlfvÃ©nic Waves at Kinetic Scales in Wavenumber Space. Astrophysical Journal, 2020, 896, 47.	4.5	8
65	Statistics of solar wind electron breakpoint energies using machine learning techniques. Astronomy and Astrophysics, 2020, 639, A46.	5.1	8
66	Ion reflections from the parallel MHD termination shock and a possible injection mechanism into the Fermi-1 acceleration. Astronomy and Astrophysics, 2008, 487, L21-L24.	5.1	8
67	The Stability of the Electron Strahl against the Oblique Fast-magnetosonic/Whistler Instability in the Inner Heliosphere. Astrophysical Journal Letters, 2022, 926, L26.	8.3	8
68	Stochastic Ion Acceleration by the Ion-cyclotron Instability in a Growing Magnetic Field. Astrophysical Journal, 2019, 880, 100.	4.5	7
69	Using Dimensionality Reduction and Clustering Techniques to Classify Space Plasma Regimes. Frontiers in Astronomy and Space Sciences, 2020, 7, .	2.8	7
70	MAGNETOHYDRODYNAMIC SLOW MODE WITH DRIFTING He⁺⁺: IMPLICATIONS FOR CORONAL SEISMOLOGY AND THE SOLAR WIND. Astrophysical Journal, 2014, 788, 35.	4.5	6
71	ON THE CONSERVATION OF CROSS HELICITY AND WAVE ACTION IN SOLAR-WIND MODELS WITH NON-WKB ALFVÃ‰N WAVE REFLECTION. Astrophysical Journal, 2015, 811, 50.	4.5	6
72	Magnetic Field Reconstruction for a Realistic Multi-Point, Multi-Scale Spacecraft Observatory. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	6

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73	Deriving the bulk properties of solar wind electrons observed by Solar Orbiter. Astronomy and Astrophysics, 2021, 656, A10.	5.1	6
74	Dependence of kinetic plasma waves on ion-to-electron mass ratio and light-to-AlfvÃ©n speed ratio. Monthly Notices of the Royal Astronomical Society, 2020, 494, 2905-2911.	4.4	5
75	High-cadence measurements of electron pitch-angle distributions from Solar Orbiter SWA-EAS burst mode operations. Astronomy and Astrophysics, 0, , .	5.1	5
76	Solar Orbiter observations of the structure of reconnection outflow layers in the solar wind. Astronomy and Astrophysics, 2021, 656, L8.	5.1	5
77	Coherence of Ion Cyclotron Resonance in Damped Ion Cyclotron Waves in Space Plasmas. Astrophysical Journal, 2022, 928, 36.	4.5	5
78	The Kinetic Expansion of Solar-wind Electrons: Transport Theory and Predictions for the Very Inner Heliosphere. Astrophysical Journal, 2022, 927, 162.	4.5	5
79	Design and Optimization of a High-Time-Resolution Magnetic Plasma Analyzer (MPA). Applied Sciences (Switzerland), 2020, 10, 8483.	2.5	4
80	The Plasma Universe: A Coherent Science Theme for Voyage 2050. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	4
81	Anisotropy of Magnetic Field and Velocity Fluctuations in the Solar Wind. Astrophysical Journal, 2021, 913, 80.	4.5	4
82	Energy Conversion between Ions and Electrons through Ion Cyclotron Waves and Embedded Ion-scale Rotational Discontinuity in Collisionless Space Plasmas. Astrophysical Journal Letters, 2020, 904, L16.	8.3	4
83	The kinetic AlfvÃ©n-like nature of turbulent fluctuations in the Earth's magnetosheath: MMS measurement of the electron AlfvÃ©n ratio. Physics of Plasmas, 2022, 29, 012308.	1.9	4
84	Self-initialised Fermi-1 acceleration by pitch-angle re-scattering of solar wind ions reflected from the parallel termination shock. Astrophysics and Space Sciences Transactions, 2008, 4, 51-58.	1.0	3
85	The angular-momentum flux in the solar wind observed during Solar Orbiter's first orbit. Astronomy and Astrophysics, 0, , .	5.1	2
86	Spectral intensities of Anomalous Cosmic Rays derived from the injection rate at the solar wind termination shock. Astrophysics and Space Sciences Transactions, 2009, 5, 21-30.	1.0	2
87	Stochastic Electron Acceleration by Temperature Anisotropy Instabilities under Solar Flare Plasma Conditions. Astrophysical Journal, 2022, 924, 52.	4.5	2
88	CubeSat measurements of thermospheric plasma: spacecraft charging effects on a plasma analyzer. CEAS Space Journal, 2022, 14, 675-687.	2.3	2
89	Growth of Outward Propagating Fast-magnetosonic/Whistler Waves in the Inner Heliosphere Observed by Parker Solar Probe. Astrophysical Journal, 2022, 933, 220.	4.5	2
90	Direct Evidence of Magnetic Reconnection Onset via the Tearing Instability. Frontiers in Astronomy and Space Sciences, 0, 9, .	2.8	2

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91	Solar wind proton reflection and injection to the ACR regime at the parallel termination shock. Astrophysics and Space Sciences Transactions, 2009, 5, 15-19.	1.0	0
92	HolmMHD: A Versatile Magnetohydrodynamics Code. Research Notes of the AAS, 2019, 3, 96.	0.7	0