Eckart Marsch

List of Publications by Year
in descending order

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129 papers	6,683 citations	70961 41 h-index	62479 80 g-index
130 all docs	130 docs citations	130 times ranked	2308 citing authors

#	Article	IF	Citations
1	MHD structures, waves and turbulence in the solar wind: Observations and theories. Space Science Reviews, 1995, 73, 1-210.	3.7	891
2	SUMER - Solar Ultraviolet Measurements of Emitted Radiation. Solar Physics, 1995, 162, 189-231.	1.0	689
3	CELIAS - Charge, Element and Isotope Analysis System for SOHO. Solar Physics, 1995, 162, 441-481.	1.0	272
4	Solar Wind Origin in Coronal Funnels. Science, 2005, 308, 519-523.	6.0	256
5	The Solar Corona above Polar Coronal Holes as Seen by SUMER onSOHO. Astrophysical Journal, 1998, 500, 1023-1038.	1.6	254
6	Title is missing!. Solar Physics, 1997, 171, 363-391.	1.0	198
7	POSSIBLE EVIDENCE OF ALFVÃ‰N-CYCLOTRON WAVES IN THE ANGLE DISTRIBUTION OF MAGNETIC HELICITY OF SOLAR WIND TURBULENCE. Astrophysical Journal, 2011, 731, 85.	1.6	176
8	Intermittency, non-Gaussian statistics and fractal scaling of MHD fluctuations in the solar wind. Nonlinear Processes in Geophysics, 1997, 4, 101-124.	0.6	161
9	Ions of martian origin and plasma sheet in the martian magnetosphere: initial results of the TAUS experiment. Nature, 1989, 341, 612-614.	13.7	158
10	Non-Gaussian probability distributions of solar wind fluctuations. Annales Geophysicae, 1994, 12, 1127-1138.	0.6	138
11	Ion Temperatures in a Solar Polar Coronal Hole Observed by Sumer onSOHO. Astrophysical Journal, 1998, 503, 475-482.	1.6	122
12	Dynamics of correlation functions with ElsÃsser variables for inhomogeneous MHD turbulence. Journal of Plasma Physics, 1989, 41, 479-491.	0.7	114
13	Proton Core Heating and Beam Formation via Parametrically Unstable AlfvÃ©n-Cyclotron Waves. Physical Review Letters, 2008, 100, 125003.	2.9	112
14	ON SPECTRAL BREAKS IN THE POWER SPECTRA OF MAGNETIC FLUCTUATIONS IN FAST SOLAR WIND BETWEEN 0.3 AND 0.9 AU. Astrophysical Journal, 2012, 749, 102.	1.6	99
15	Determination of the solar wind angular momentum flux from the HELIOS data - an observational test of the Weber and Davis theory. Astrophysical Journal, 1983, 271, 335.	1.6	94
16	Determination of wave growth from measured distribution functions and transport theory. Journal of Plasma Physics, 1980, 23, 91-113.	0.7	93
17	EXCITATION OF KINK WAVES DUE TO SMALL-SCALE MAGNETIC RECONNECTION IN THE CHROMOSPHERE?. Astrophysical Journal, 2009, 705, L217-L222.	1.6	92
18	EVIDENCE OF LANDAU AND CYCLOTRON RESONANCE BETWEEN PROTONS AND KINETIC WAVES IN SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2015, 800, L31.	3.0	87

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19	Detection of 55â€“80 keV Hydrogen Atoms of Heliospheric Origin by CELIAS/HSTOF onSOHO. Astrophysical Journal, 1998, 503, 916-922.	1.6	86
20	CIR Morphology, Turbulence, Discontinuities, and Energetic Particles. Space Science Reviews, 1999, 89, 179-220.	3.7	79
21	The Solar Origin of Corotating Interaction Regions and Their Formation in the Inner Heliosphere. Space Science Reviews, 1999, 89, 141-178.	3.7	78
22	Plasma Flows Guided by Strong Magnetic Fields in the Solar Corona. Astrophysical Journal, 2008, 685, 1262-1269.	1.6	70
23	MULTI-SCALE ANTI-CORRELATION BETWEEN ELECTRON DENSITY AND MAGNETIC FIELD STRENGTH IN THE SOLAR WIND. Astrophysical Journal, 2011, 728, 146.	1.6	67
24	Helios: Evolution of Distribution Functions 0.3â€“1 AU. Space Science Reviews, 2012, 172, 23-39.	3.7	67
25	Preferential Heating and Acceleration of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>Particles by AlfvÃ©n-Cyclotron Waves. Physical Review Letters, 2009, 102, 175001.	2.9	64
26	Solar Wind and Chromospheric Network. Solar Physics, 1997, 176, 87-106.	1.0	63
27	The dependence of MHD turbulence spectra on the inner solar wind stream structure near solar minimum. Geophysical Research Letters, 1990, 17, 283-286.	1.5	60
28	Turbulence in the Solar Atmosphere andÂSolar Wind. Space Science Reviews, 2010, 156, 135-238.	3.7	56
29	Multifractal scaling of the kinetic energy flux in solar wind turbulence. Annales Geophysicae, 1996, 14, 259-269.	0.6	53
30	An extended structure-function model and its application to the analysis of solar wind intermittency properties. Annales Geophysicae, 1996, 14, 270-285.	0.6	53
31	ON INTERMITTENT TURBULENCE HEATING OF THE SOLAR WIND: DIFFERENCES BETWEEN TANGENTIAL AND ROTATIONAL DISCONTINUITIES. Astrophysical Journal Letters, 2013, 772, L14.	3.0	52
32	Kinetic Results for Ions in the Solar Corona with Waveâ€Particle Interactions and Coulomb Collisions. Astrophysical Journal, 2002, 568, 1030-1042.	1.6	52
33	Transfer equations for spectral densities of inhomogeneous MHD turbulence. Journal of Plasma Physics, 1990, 44, 103-122.	0.7	50
34	The Current-Free Electric Double Layer in a Coronal Magnetic Funnel. Astrophysical Journal, 2006, 640, L199-L202.	1.6	49
35	RADIAL EVOLUTION OF THE WAVEVECTOR ANISOTROPY OF SOLAR WIND TURBULENCE BETWEEN 0.3 AND 1 AU. Astrophysical Journal, 2013, 773, 72.	1.6	49
36	ON THE RELATIVE SPEED AND TEMPERATURE RATIO OF SOLAR WIND ALPHA PARTICLES AND PROTONS: COLLISIONS VERSUS WAVE EFFECTS. Astrophysical Journal Letters, 2011, 728, L3.	3.0	47

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37	REPRODUCTION OF THE OBSERVED TWO-COMPONENT MAGNETIC HELICITY IN SOLAR WIND TURBULENCE BY A SUPERPOSITION OF PARALLEL AND OBLIQUE ALFVÃ‰N WAVES. Astrophysical Journal, 2012, 749, 86.	1.6	46
38	Limits on the core temperature anisotropy of solar wind protons. Annales Geophysicae, 2006, 24, 2057-2063.	0.6	43
39	Cool and Hot Components of a Coronal Bright Point. Astrophysical Journal, 2008, 681, L121-L124.	1.6	42
40	KINETIC SLOW MODE IN THE SOLAR WIND AND ITS POSSIBLE ROLE IN TURBULENCE DISSIPATION AND ION HEATING. Astrophysical Journal, 2015, 805, 24.	1.6	42
41	Resonant wave acceleration of minor ions in the solar wind. Astrophysics and Space Science, 1982, 81, 295-314.	0.5	41
42	A semi-kinetic model of wave-ion interaction in the solar corona. Geophysical Research Letters, 2001, 28, 1917-1920.	1.5	41
43	LARGE-AMPLITUDE ALFVÃ‰N WAVE IN INTERPLANETARY SPACE: THEWINDSPACECRAFT OBSERVATIONS. Astrophysical Journal, 2012, 746, 147.	1.6	41
44	Solar Origin and Interplanetary Evolution of Stream Interfaces. Space Science Reviews, 1999, 89, 7-20.	3.7	40
45	PROTON HEATING IN SOLAR WIND COMPRESSIBLE TURBULENCE WITH COLLISIONS BETWEEN COUNTER-PROPAGATING WAVES. Astrophysical Journal Letters, 2015, 813, L30.	3.0	40
46	On the Efficiency of Nonresonant Ion Heating by Coronal AlfvÃ©n Waves. Astrophysical Journal, 2008, 684, L119-L122.	1.6	39
47	THE NASCENT FAST SOLAR WIND OBSERVED BY THE EUV IMAGING SPECTROMETER ON BOARD HINODE. Astrophysical Journal Letters, 2010, 709, L88-L93.	3.0	39
48	Apparent temperature anisotropies due to wave activity in the solar wind. Annales Geophysicae, 2011, 29, 909-917.	0.6	38
49	THE INFLUENCE OF INTERMITTENCY ON THE SPECTRAL ANISOTROPY OF SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2014, 783, L9.	3.0	37
50	SMALL-SCALE PRESSURE-BALANCED STRUCTURES DRIVEN BY OBLIQUE SLOW MODE WAVES MEASURED IN THE SOLAR WIND. Astrophysical Journal, 2013, 774, 59.	1.6	35
51	UPFLOWS IN FUNNEL-LIKE LEGS OF CORONAL MAGNETIC LOOPS. Astrophysical Journal, 2009, 704, 883-890.	1.6	34
52	Observations of the Sun at Vacuum- Ultraviolet Wavelengths from Space. Part I: Concepts and Instrumentation. Space Science Reviews, 2004, 111, 415-480.	3.7	32
53	Observations of the Sun at Vacuum-Ultraviolet Wavelengths from Space. Part II: Results and Interpretations. Space Science Reviews, 2007, 133, 103-179.	3.7	32
54	Venus tail ray observation near Earth. Geophysical Research Letters, 1997, 24, 1163-1166.	1.5	31

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55	Solar Orbiterâ€”mission profile, main goals and present status. Advances in Space Research, 2005, 36, 1360-1366.	1.2	31
56	Coulomb collision rates for self-similar and kappa distributions. Physics of Fluids, 1985, 28, 1379.	1.4	29
57	SUNWARD PROPAGATING ALFVÃ‰N WAVES IN ASSOCIATION WITH SUNWARD DRIFTING PROTON BEAMS IN THE SOLAR WIND. Astrophysical Journal, 2015, 805, 176.	1.6	29
58	Correlation Heights of the Sources of Solar Ultraviolet Emission Lines in a Quiet-Sun Region. Astrophysical Journal, 2005, 624, L133-L136.	1.6	28
59	Modeling of Solar Wind in the Coronal Funnel with Mass and Energy Supplied at 5ÂMm. Solar Physics, 2008, 250, 147-158.	1.0	28
60	ELECTRON TRANSPORT IN THE FAST SOLAR WIND. Astrophysical Journal, 2012, 753, 31.	1.6	28
61	INJECTION OF PLASMA INTO THE NASCENT SOLAR WIND VIA RECONNECTION DRIVEN BY SUPERGRANULAR ADVECTION. Astrophysical Journal, 2013, 770, 6.	1.6	28
62	Linear mode analysis in multi-ion plasmas. Journal of Plasma Physics, 1997, 58, 205-221.	0.7	27
63	Elemental composition of the January 6, 1997, CME. Geophysical Research Letters, 1998, 25, 2557-2560.	1.5	27
64	OCCURRENCE RATES AND HEATING EFFECTS OF TANGENTIAL AND ROTATIONAL DISCONTINUITIES AS OBTAINED FROM THREE-DIMENSIONAL SIMULATION OF MAGNETOHYDRODYNAMIC TURBULENCE. Astrophysical Journal Letters, 2015, 804, L43.	3.0	24
65	Velocity-space diffusion of solar wind protons in oblique waves and weak turbulence. Annales Geophysicae, 2011, 29, 2089-2099.	0.6	23
66	Interactions of AlfvÃ©n-Cyclotron Waves with Ions in the Solar Wind. Space Science Reviews, 2012, 172, 361-372.	3.7	23
67	THE FORMATION OF ROTATIONAL DISCONTINUITIES IN COMPRESSIVE THREE-DIMENSIONAL MHD TURBULENCE. Astrophysical Journal, 2015, 809, 155.	1.6	22
68	THE SPECTRAL FEATURES OF LOW-AMPLITUDE MAGNETIC FLUCTUATIONS IN THE SOLAR WIND AND THEIR COMPARISON WITH MODERATE-AMPLITUDE FLUCTUATIONS. Astrophysical Journal Letters, 2015, 810, L21.	3.0	22
69	Multiscale Pressure-Balanced Structures in Three-dimensional Magnetohydrodynamic Turbulence. Astrophysical Journal, 2017, 836, 69.	1.6	20
70	Space weather explorer â€“ The KuaFu mission. Advances in Space Research, 2008, 41, 190-209.	1.2	19
71	Proton beam velocity distributions in an interplanetary coronal mass ejection. Annales Geophysicae, 2009, 27, 869-875.	0.6	19
72	Lower hybrid waves in the solar wind. Geophysical Research Letters, 1982, 9, 1155-1158.	1.5	18

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73	Comparison of the Bhatnagar-Gross-Krook approximation with the exact Coulomb collision operator. Physical Review A, 1986, 34, 533-540.	1.0	18
74	SMALL-SCALE PRESSURE-BALANCED STRUCTURES DRIVEN BY MIRROR-MODE WAVES IN THE SOLAR WIND. Astrophysical Journal, 2013, 776, 94.	1.6	18
75	Solar orbiter, a high-resolution mission to the sun and inner heliosphere. Advances in Space Research, 2002, 29, 2027-2040.	1.2	17
76	Solar wind responses to the solar activity cycle. Advances in Space Research, 2006, 38, 921-930.	1.2	17
77	Solar wind origins in coronal holes and in the quiet Sun. Advances in Space Research, 2010, 45, 303-309.	1.2	17
78	Influence of intermittency on the anisotropy of magnetic structure functions of solar wind turbulence. Journal of Geophysical Research: Space Physics, 2016, 121, 911-924.	0.8	17
79	Solar wind and kinetic heliophysics. Annales Geophysicae, 2018, 36, 1607-1630.	0.6	17
80	KINETIC SIMULATION OF SLOW MAGNETOSONIC WAVES AND QUASI-PERIODIC UPFLOWS IN THE SOLAR CORONA. Astrophysical Journal, 2016, 825, 58.	1.6	16
81	SPECTRAL ANISOTROPY OF ELSÃ„SSER VARIABLES IN TWO-DIMENSIONAL WAVE-VECTOR SPACE AS OBSERVED IN THE FAST SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2016, 816, L24.	3.0	15
82	Emission heights of coronal bright points on Fe XII radiance map. Advances in Space Research, 2007, 39, 1853-1859.	1.2	14
83	On nonlinear AlfvÃ©n-cyclotron waves in multi-species plasma. Journal of Plasma Physics, 2011, 77, 385-403.	0.7	14
84	Generation of temperature anisotropy for alpha particle velocity distributions in solar wind at 0.3 AU: Vlasov simulations and Helios observations. Journal of Geophysical Research: Space Physics, 2014, 119, 2400-2410.	0.8	14
85	The upstreamâ€propagating AlfvÃ©nic fluctuations with power law spectra in the upstream region of the Earth's bow shock. Geophysical Research Letters, 2015, 42, 3654-3661.	1.5	14
86	REGULATION OF ION DRIFTS AND ANISOTROPIES BY PARAMETRICALLY UNSTABLE FINITE-AMPLITUDE ALFVÃ‰N-CYCLOTRON WAVES IN THE FAST SOLAR WIND. Astrophysical Journal, 2014, 783, 139.	1.6	13
87	Two cases of convecting structure in the slow solar wind turbulence. AIP Conference Proceedings, 2016, , .	0.3	13
88	Influence of Intermittency on the Quasi-perpendicular Scaling in Three-dimensional Magnetohydrodynamic Turbulence. Astrophysical Journal, 2017, 846, 49.	1.6	13
89	Spatial transport and spectral transfer of solar wind turbulence composed of AlfvÃ©n waves and convective structures I: The theoretical model. Annales Geophysicae, 1995, 13, 459-474.	0.6	12
90	Radial gradients of ion densities and temperatures derived from SWICS/Ulysses observations. Geophysical Research Letters, 1995, 22, 2445-2448.	1.5	12

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91	Cyclotron Heating of the Solar Corona. Astrophysics and Space Science, 1998, 264, 63-76.	0.5	12
92	Identification of slow magnetosonic wave trains and their evolution in 3-D compressible turbulence simulation. Annales Geophysicae, 2015, 33, 13-23.	0.6	10
93	Dirac equation based on the vector representation of the Lorentz group. European Physical Journal Plus, 2020, 135, 1.	1.2	10
94	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.	0.7	9
95	Fermion unification model based on the intrinsic SU(8) symmetry of a generalized Dirac equation. Frontiers in Physics, 2015, 3, .	1.0	9
96	Pressure enhancement associated with meridional flow in high-speed solar wind: possible evidence for an interplanetary magnetic flux rope. Annales Geophysicae, 1997, 15, 137-142.	0.6	7
97	On resonant interactions of ions with plasma waves in a reduced quasi-linear theory. Nonlinear Processes in Geophysics, 2002, 9, 69-74.	0.6	7
98	Thermodynamics of a Two-Band Hubbard Model. Physica Status Solidi (B): Basic Research, 1974, 65, 403-410.	0.7	6
99	On the frequencyâ€dependent conductivity and the current operator of the Hubbard model. Physica Status Solidi (B): Basic Research, 1975, 72, K103.	0.7	6
100	One-dimensional Hubbard model with nearest and second nearest neighbour hopping in the Hartree-Fock approximation. Journal of Physics F: Metal Physics, 1977, 7, 401-406.	1.6	6
101	Solitons in multi-ion plasmas. Journal of Plasma Physics, 1998, 60, 845-859.	0.7	6
102	Multi-Ion Kinetic Model for Coronal Loop. Astrophysical Journal, 2008, 680, L77-L80.	1.6	6
103	Relativistic wave equation for a massive charged particle with arbitrary spin. European Physical Journal Plus, 2017, 132, 1.	1.2	6
104	Connecting in the Dirac Equation the Clifford Algebra of Lorentz Invariance with the Lie Algebra of SU(N) Gauge Symmetry. Symmetry, 2021, 13, 475.	1.1	6
105	Magnetic and electric properties of the Hubbard model for the fcc lattice. Physical Review B, 1978, 17, 2221-2232.	1.1	5
106	The relativistic energy spectrum of hydrogen. Annalen Der Physik, 2005, 14, 324-343.	0.9	5
107	Coronal Loop Model Including Ion Kinetics. Astrophysical Journal, 2008, 676, 1346-1355.	1.6	5
108	Fundamental Fermion Interactions via Vector Bosons of Unified SU(2)âŠ—SU(4) Gauge Fields. Frontiers in Physics, 2016, 4, .	1.0	5

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109	Fermion Colour and Flavour Originating from Multiple Representations of the Lorentz Group and Clifford Algebra. Physical Science International Journal, 0, , 1-13.	0.3	5
110	Collisional transfer of energy and momentum between drifting tri-Maxwellians. Journal of Plasma Physics, 1986, 35, 473-482.	0.7	4
111	A New Route to the Majorana Equation. Symmetry, 2013, 5, 271-286.	1.1	4
112	Waveâ€"particle resonance condition test for ion-kinetic waves in the solar wind. Annales Geophysicae, 2016, 34, 393-398.	0.6	4
113	Electrical Conduction in Narrow Energy Bands. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1974, 29, 1655-1659.	0.7	4
114	Electrical conductivity of a doubly-degenerate hubbard-model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1976, 59, 293-294.	0.9	3
115	Force-force correlation function method for the ideal resistance of the Hubbard model. Journal of Physics C: Solid State Physics, 1976, 9, L117-L120.	1.5	3
116	On the Majorana Equation: Relations between Its Complex Two-Component and Real Four-Component Eigenfunctions. ISRN Mathematical Analysis, 2012, 2012, 1-17.	0.3	3
117	CPTM Symmetry for the Dirac Equation and Its Extended Version Based on the Vector Representation of the Lorentz Group. Frontiers in Physics, 2021, 9, .	1.0	3
118	Lorentz invariance and the spinor-helicity formalism yield the U(1) and SU(3) fermion symmetry. European Physical Journal Plus, 2022, 137, .	1.2	3
119	A new upper bound for the free energy of the Hubbard model based on the cluster approach. Physica Status Solidi (B): Basic Research, 1975, 69, K149.	0.7	2
120	Thermodynamics of a twoâ€point doubly degenerate hubbard model in the halfâ€filled case. Physica Status Solidi (B): Basic Research, 1976, 78, K39.	0.7	2
121	Diffusive fractionation in the chromosphere. Space Science Reviews, 1994, 70, 341-346.	3.7	2
122	Space mission for exploration of the Sun Mercury and inner Heliosphere (â€œInterHeliosâ€). Advances in Space Research, 1998, 21, 275-289.	1.2	2
123	An effective Dirac equation for a binary of two fermions. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 185301.	0.7	1
124	On Charge Conjugation, Chirality and Helicity of the Dirac and Majorana Equation for Massive Leptons. Symmetry, 2015, 7, 450-463.	1.1	1
125	On the weakly anisotropic nature of the time-stationary turbulence in the solar wind. AIP Conference Proceedings, 2016, , .	0.3	1
126	Correlation Height of the Source Region of Si II Emission Lines in Coronal Hole Regions. Chinese Astronomy and Astrophysics, 2007, 31, 137-145.	0.1	0

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127	Multi-spacecraft observations to study the shock extension in the inner heliosphere. Proceedings of the International Astronomical Union, 2008, 4, 481-487.	0.0	0
128	Synthetic spectral analysis of a kinetic model for slow-magnetosonic waves in solar corona. AIP Conference Proceedings, 2016, , .	0.3	0
129	Threefold spin helicity as possible origin of SU(3) gauge symmetry. European Physical Journal Plus, 2021, 136, 1.	1.2	0