

Gaetano Zimbardo

List of Publications by Year in descending order

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140
papers

3,087
citations

159585

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197818

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143
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143
docs citations

143
times ranked

1267
citing authors

#	ARTICLE	IF	CITATIONS
1	In Situ Evidence of Ion Acceleration between Consecutive Reconnection Jet Fronts. <i>Astrophysical Journal</i> , 2021, 908, 73.	4.5	3
2	The Influence of Magnetic Turbulence on the Energetic Particle Transport Upstream of Shock Waves. <i>Atmosphere</i> , 2021, 12, 508.	2.3	6
3	Energetic particle fluxes at heliospheric shocks: Evidences of superdiffusion and comparison between analytical and numerical modeling. <i>New Astronomy</i> , 2021, 87, 101605.	1.8	2
4	Charged-particle chaotic dynamics in rotational discontinuities. <i>Physical Review E</i> , 2021, 104, 025208.	2.1	5
5	Exploring the Solar Wind from Its Source on the Corona into the Inner Heliosphere during the First Solar Orbiter's Parker Solar Probe Quadrature. <i>Astrophysical Journal Letters</i> , 2021, 920, L14.	8.3	25
6	Energetic Particle Superdiffusion in Solar System Plasmas: Which Fractional Transport Equation?. <i>Symmetry</i> , 2021, 13, 2368.	2.2	5
7	Particle transport in hybrid PIC shock simulations: A comparison of diagnostics. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 491, 580-595.	4.4	16
8	Collisionless Shocks as a Diagnostic Tool for Understanding Energetic Particle Transport in Space Plasmas. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	4
9	Non-Markovian Pitch-angle Scattering as the Origin of Particle Superdiffusion Parallel to the Magnetic Field. <i>Astrophysical Journal</i> , 2020, 903, 105.	4.5	11
10	On the Power-Law Distribution of Pitch-Angle Scattering Times in Solar Wind Turbulence. <i>Solar Physics</i> , 2019, 294, 1.	2.5	7
11	On the Fractional Diffusion-Advection Equation for Fluids and Plasmas. <i>Fluids</i> , 2019, 4, 62.	1.7	5
12	Influence of the transport regime on the energetic particle density profiles upstream and downstream of interplanetary shocks. <i>Advances in Space Research</i> , 2019, 63, 2659-2671.	2.6	7
13	Understanding the radio spectral indices of galaxy cluster relics by superdiffusive shock acceleration. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 478, 4922-4930.	4.4	18
14	Role of lower hybrid waves in ion heating at dipolarization fronts. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 5092-5104.	2.4	12
15	Charge Proportional and Weakly Mass-Dependent Acceleration of Different Ion Species in the Earth's Magnetotail. <i>Geophysical Research Letters</i> , 2017, 44, 10,108.	4.0	7
16	Superdiffusive shock acceleration at galaxy cluster shocks. <i>Nature Astronomy</i> , 2017, 1, .	10.1	13
17	Fractional Parker equation for the transport of cosmic rays: steady-state solutions. <i>Astronomy and Astrophysics</i> , 2017, 607, A7.	5.1	23
18	Proton and heavy ion acceleration by stochastic fluctuations in the Earth's magnetotail. <i>Annales Geophysicae</i> , 2016, 34, 917-926.	1.6	9

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19	Energetic particle transport in the presence of magnetic turbulence: influence of spectral extension and intermittency. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 459, 3395-3406.	4.4	36
20	Transport of relativistic electrons at shocks in shell-type supernova remnants: diffusive and superdiffusive regimes. <i>Astronomy and Astrophysics</i> , 2016, 596, A34.	5.1	25
21	Superdiffusive transport in laboratory and astrophysical plasmas. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	32
22	Heavy ion acceleration at dipolarization fronts in planetary magnetotails. <i>Geophysical Research Letters</i> , 2015, 42, 8280-8287.	4.0	24
23	Wave-particle interactions with parallel whistler waves: Nonlinear and time-dependent effects revealed by particle-in-cell simulations. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	20
24	Evidence for superdiffusive shock acceleration at interplanetary shock waves. <i>Journal of Physics: Conference Series</i> , 2015, 642, 012020.	0.4	4
25	Current sheets with inhomogeneous plasma temperature: Effects of polarization electric field and 2D solutions. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	13
26	Parameter estimation of superdiffusive motion of energetic particles upstream of heliospheric shocks. <i>Astronomy and Astrophysics</i> , 2015, 578, A2.	5.1	37
27	SHORT ACCELERATION TIMES FROM SUPERDIFFUSIVE SHOCK ACCELERATION IN THE HELIOSPHERE. <i>Astrophysical Journal</i> , 2015, 815, 75.	4.5	23
28	A numerical study of Lévy random walks: Mean square displacement and power-law propagators. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	6
29	North-south asymmetry in the magnetic deflection of polar coronal hole jets. <i>Astronomy and Astrophysics</i> , 2015, 583, A127.	5.1	18
30	Particle dynamics in the field of two waves in a magnetoplasma. <i>Plasma Physics and Controlled Fusion</i> , 2014, 56, 095002.	2.1	10
31	Proton acceleration at two-dimensional dipolarization fronts in the magnetotail. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 8929-8941.	2.4	25
32	Preferential acceleration of heavy ions in the reconnection outflow region. <i>Astronomy and Astrophysics</i> , 2014, 562, A58.	5.1	14
33	Methods for Characterising Microphysical Processes in Plasmas. <i>Space Science Reviews</i> , 2013, 178, 665-693.	8.1	45
34	On the generation of ion beamlets in the magnetotail: Resonant acceleration versus stochastic acceleration. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 5445-5453.	2.4	8
35	FROM LÉVY WALKS TO SUPERDIFFUSIVE SHOCK ACCELERATION. <i>Astrophysical Journal</i> , 2013, 778, 35.	4.5	51
36	Nonclassical Transport and Particle-Field Coupling: from Laboratory Plasmas to the Solar Wind. <i>Space Science Reviews</i> , 2013, 178, 233-270.	8.1	48

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37	Nonclassical Transport and Particle-Field Coupling: from Laboratory Plasmas to the Solar Wind. Space Sciences Series of ISSI, 2013, , 157-194.	0.0	1
38	Non diffusive propagation of solar energetic particles : data analysis and numerical simulations. EAS Publications Series, 2012, 58, 99-102.	0.3	0
39	MAGNETIC VARIANCES AND PITCH-ANGLE SCATTERING TIMES UPSTREAM OF INTERPLANETARY SHOCKS. Astrophysical Journal, 2012, 754, 8.	4.5	26
40	Effect of the shear flow in the generation and self-organization of internal gravity wave structures in the dissipative ionosphere. Plasma Physics Reports, 2012, 38, 972-990.	0.9	2
41	SUPERDIFFUSIVE SHOCK ACCELERATION. Astrophysical Journal, 2012, 750, 87.	4.5	46
42	Heating heavy ions in the polar corona by collisionless shocks: A one-dimensional simulation. Advances in Space Research, 2012, 49, 408-415.	2.6	2
43	Anomalous particle transport in the heliosphere. Advances in Space Research, 2012, 49, 1633-1642.	2.6	47
44	Superdiffusive Transport at Shocks in Space Plasmas. Thirty Years of Astronomical Discovery With UKIRT, 2012, , 153-158.	0.3	0
45	On the energization of protons interacting with 3-D time-dependent electromagnetic fields in the Earth's magnetotail. Journal of Geophysical Research, 2011, 116, .	3.3	22
46	Charged particle acceleration by intermittent electromagnetic turbulence. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	12
47	Determination of temperature maps of EUV coronal hole jets. Advances in Space Research, 2011, 48, 1490-1498.	2.6	13
48	Heavy ion reflection and heating by collisionless shocks in polar solar corona. Planetary and Space Science, 2011, 59, 468-474.	1.7	24
49	Stochastic Fermi acceleration in the Earth's magnetotail current sheet: Numerical studies. , 2011, , .		0
50	Quasi-ballistic and superdiffusive transport for impulsive solar particle events. Astronomy and Astrophysics, 2011, 530, A130.	5.1	22
51	Superdiffusive and ballistic propagation of protons in solar energetic particle events. Proceedings of the International Astronomical Union, 2010, 6, 198-200.	0.0	0
52	ELECTRON TRANSPORT IN CORONAL LOOPS: THE INFLUENCE OF THE EXPONENTIAL SEPARATION OF MAGNETIC FIELD LINES. Astrophysical Journal, 2010, 719, 1912-1917.	4.5	10
53	Magnetic field line diffusion coefficient and Kolmogorov entropy in the percolation regime. Communications in Nonlinear Science and Numerical Simulation, 2010, 15, 79-85.	3.3	2
54	Magnetic Turbulence in the Geospace Environment. Space Science Reviews, 2010, 156, 89-134.	8.1	124

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55	Observational features of equatorial coronal hole jets. <i>Annales Geophysicae</i> , 2010, 28, 687-696.	1.6	30
56	More than Mass Proportional Heating of Heavy Ions by Collisionless Quasi-Perpendicular Shocks in the Solar Corona. , 2010, , .		3
57	Superdiffusive Transport Upstream of the Solar Wind Termination Shock. , 2010, , .		2
58	Influence of the electric field perpendicular to the current sheet on ion beamlets in the magnetotail. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	11
59	Stochastic Fermi acceleration in the magnetotail current sheet: A numerical study. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	17
60	Role of oxygen ions in the formation of a bifurcated current sheet in the magnetotail. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	6
61	ION SUPERDIFFUSION AT THE SOLAR WIND TERMINATION SHOCK. <i>Astrophysical Journal</i> , 2009, 693, L118-L121.	4.5	78
62	Model of strong stationary vortex turbulence in space plasmas. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 11-22.	1.3	13
63	Acceleration and transport of ions in turbulent current sheets: formation of non-maxwellian energy distribution. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 631-639.	1.3	27
64	Kolmogorov's Sinai entropy in field line diffusion by anisotropic magnetic turbulence. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 075003.	2.1	4
65	Ion and electron superdiffusive transport in the interplanetary space. <i>Advances in Space Research</i> , 2009, 44, 465-470.	2.6	48
66	Solar-Terrestrial Relations: Magnetic Turbulence in the Earth's Magnetosphere and Geomagnetic Activity. <i>Earth, Moon and Planets</i> , 2009, 104, 127-129.	0.6	1
67	Characteristics of EUV Coronal Jets Observed with ASTEREO/SECCHI. <i>Solar Physics</i> , 2009, 259, 87-108.	2.5	145
68	Large-scale zonal flow and magnetic field generation due to drift-Alfven turbulence in ionosphere plasma. <i>Planetary and Space Science</i> , 2009, 57, 1474-1484.	1.7	3
69	Particle acceleration by stochastic fluctuations and dawn-dusk electric field in the Earth's magnetotail. <i>Advances in Space Research</i> , 2009, 44, 528-533.	2.6	7
70	Stochastic and direct acceleration mechanisms in the Earth's magnetotail. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	30
71	Kolmogorov entropy of magnetic field lines in the percolation regime. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 015005.	2.1	13
72	Particle transport and acceleration in a time-varying electromagnetic field with a multi-scale structure. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 6284-6287.	2.1	22

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73	Superdiffusive transport of electrons accelerated at corotating interaction regions. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	68
74	Visualizing Particle Transport Across Magnetic Flux Tubes in Anisotropic Magnetic Turbulence. <i>IEEE Transactions on Plasma Science</i> , 2008, 36, 1114-1115.	1.3	3
75	Observations of anomalous transport of energetic electrons in the heliosphere. <i>Astrophysics and Space Sciences Transactions</i> , 2008, 4, 27-30.	1.0	7
76	Magnetic turbulence in and around the Earth's magnetosphere. <i>Astrophysics and Space Sciences Transactions</i> , 2008, 4, 35-40.	1.0	18
77	LÃ%VY WALKS FOR ENERGETIC ELECTRONS DETECTED BY THE ULYSSES SPACECRAFT AT 5 AU. , 2008, , .		0
78	Evidence of Superdiffusive Transport of Electrons Accelerated at Interplanetary Shocks. <i>Astrophysical Journal</i> , 2007, 671, L177-L180.	4.5	82
79	Anomalous, non-Gaussian transport of charged particles in anisotropic magnetic turbulence. <i>Physics of Plasmas</i> , 2007, 14, 012311.	1.9	76
80	A three-dimensional kinetic-fluid numerical code to study the equilibrium structure of the magnetotail: The role of electrons in the formation of the bifurcated current sheet. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	7
81	Ion escape from the high latitude magnetopause: analysis of oxygen and proton dynamics in the presence of magnetic turbulence. <i>Annales Geophysicae</i> , 2007, 25, 1877-1885.	1.6	10
82	High energy particle transport in stochastic magnetic fields in the solar corona. <i>Astronomy and Astrophysics</i> , 2007, 462, 1113-1120.	5.1	16
83	Self-similar transport processes in a two-dimensional realization of multiscale magnetic field turbulence. <i>Physica Scripta</i> , 2006, T122, 79-88.	2.5	15
84	Superdiffusive and Subdiffusive Transport of Energetic Particles in Solar Wind Anisotropic Magnetic Turbulence. <i>Astrophysical Journal</i> , 2006, 639, L91-L94.	4.5	114
85	Magnetic turbulence in space plasmas: in and around the Earth's magnetosphere. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, B295-B302.	2.1	10
86	Magnetosheath interaction with high latitude magnetopause: Dynamic flow chaotization. <i>Planetary and Space Science</i> , 2005, 53, 133-140.	1.7	12
87	Ion transport through the turbulent magnetopause: Calculations of the distribution function moments. <i>Planetary and Space Science</i> , 2005, 53, 141-147.	1.7	2
88	Energetic particle transport in anisotropic magnetic turbulence. <i>Advances in Space Research</i> , 2005, 35, 647-652.	2.6	19
89	On the magnetic field fluctuations during magnetospheric tail current disruption: A statistical approach. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	59
90	Anomalous particle diffusion and LÃ©vy random walk of magnetic field lines in three-dimensional solar wind turbulence. <i>Plasma Physics and Controlled Fusion</i> , 2005, 47, B755-B767.	2.1	66

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91	Magnetic connection from the Earth to the solar corona, flare positions and solar energetic particle observations. <i>Astronomy and Astrophysics</i> , 2005, 438, 705-711.	5.1	19
92	Double peak structure and diamagnetic wings of the magnetotail current sheet. <i>Annales Geophysicae</i> , 2004, 22, 2541-2546.	1.6	11
93	Magnetic flux tube evolution in solar wind anisotropic magnetic turbulence. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	50
94	Ion penetration into the magnetosphere through the turbulent magnetopause. <i>Advances in Space Research</i> , 2003, 31, 1437-1442.	2.6	2
95	Ion dynamics in the magnetotail current sheet: opposite effects of magnetic turbulence and normal component. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2003, 65, 315-322.	1.6	4
96	Numerical simulation of anomalous plasma transport in the presence of magnetic turbulence. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2003, 8, 443-453.	3.3	2
97	Ion transport and Lévy random walk across the magnetopause in the presence of magnetic turbulence. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	19
98	Particle Transport in the Solar Wind Magnetic Turbulence: a Numerical Investigation. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	0
99	Magnetic turbulence and particle dynamics in the Earth's magnetotail. <i>Annales Geophysicae</i> , 2003, 21, 1947-1953.	1.6	11
100	The penetration of ions into the magnetosphere through the magnetopause turbulent current sheet. <i>Annales Geophysicae</i> , 2003, 21, 1965-1973.	1.6	5
101	DIFFUSIVE AND ANOMALOUS MAGNETIC FIELD LINES TRANSPORT IN ANISOTROPIC TURBULENCE. <i>Fractals</i> , 2002, 10, 313-319.	3.7	0
102	Ion dynamics in the near-Earth magnetotail: Magnetic turbulence versus normal component of the average magnetic field. <i>Journal of Geophysical Research</i> , 2002, 107, SMP 1-1.	3.3	66
103	Ion dynamics in the turbulent magnetotail-hidden influence of average closed field line topology. <i>Advances in Space Research</i> , 2002, 30, 1657-1662.	2.6	0
104	Self-organized branching of magnetotail current systems near the percolation threshold. <i>Journal of Geophysical Research</i> , 2001, 106, 6291-6307.	3.3	33
105	Field line diffusion in solar wind magnetic turbulence and energetic particle propagation across heliographic latitudes. <i>Journal of Geophysical Research</i> , 2001, 106, 24965-24978.	3.3	27
106	Predictions for the propagation of energetic particles from the sun to the earth: influence of the magnetic turbulence. <i>Physics and Chemistry of the Earth, Part C: Solar, Terrestrial and Planetary Science</i> , 2001, 26, 595-599.	0.2	0
107	A Monte Carlo simulation of magnetic field line tracing in the solar wind. <i>Nonlinear Processes in Geophysics</i> , 2001, 8, 151-158.	1.3	6
108	Geometric description of the magnetic field and plasma coupling in the near-Earth stretched tail prior to a substorm. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2001, 63, 705-721.	1.6	19

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109	Non Gaussian and Non Local Transport in the Earth's Distant Magnetotail. <i>Astrophysics and Space Science</i> , 2001, 277, 35-38.	1.4	0
110	Title is missing!. <i>Astrophysics and Space Science</i> , 2001, 277, 97-100.	1.4	2
111	Title is missing!. <i>Astrophysics and Space Science</i> , 2001, 277, 101-102.	1.4	4
112	Magnetic Turbulence and Ion Dynamics in the Magnetotail. <i>Astrophysics and Space Science</i> , 2001, 277, 71-79.	1.4	2
113	Kubo number and magnetic field line diffusion coefficient for anisotropic magnetic turbulence. <i>Physical Review E</i> , 2001, 63, 066405.	2.1	46
114	Magnetic Field Line Transport in Anisotropic Magnetic Turbulence: Anomalous, Quasilinear, and Percolative Regimes Versus the Kubo Number. , 2001, , 101-102.		0
115	Non Gaussian and Non Local Transport in the Earth's Distant Magnetotail. , 2001, , 35-38.		1
116	Magnetic Field Line Transport in the Heliosphere and Energetic Particle Propagation from Corotating Interaction Regions to High Heliographic Latitudes. , 2001, , 97-100.		0
117	The Kubo number as a parameter governing the level of chaos in magnetic turbulence. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 280, 99-105.	2.6	10
118	Superballistic transport in tearing driven magnetic turbulence. <i>Physics of Plasmas</i> , 2000, 7, 1071-1074.	1.9	29
119	Percolation in sign-symmetric random fields: Topological aspects and numerical modeling. <i>Physical Review E</i> , 2000, 62, 250-260.	2.1	24
120	Anomalous, quasilinear, and percolative regimes for magnetic-field-line transport in axially symmetric turbulence. <i>Physical Review E</i> , 2000, 61, 1940-1948.	2.1	110
121	Numerical simulation of ion dynamics in the magnetotail magnetic turbulence: On collisionless conductivity. <i>Nonlinear Processes in Geophysics</i> , 2000, 7, 159-166.	1.3	10
122	Magnetic field line transport in the solar wind anisotropic turbulence. , 1999, , .		2
123	Anomalous and Gaussian transport regimes in anisotropic three-dimensional magnetic turbulence. <i>Physical Review E</i> , 1999, 59, 2244-2252.	2.1	36
124	Particle propagation in the solar wind: Anomalous diffusion of magnetic field lines in turbulent magnetic fields. <i>Advances in Space Research</i> , 1998, 22, 55-58.	2.6	6
125	Effect of magnetic turbulence on the ion dynamics in the distant magnetotail. <i>Journal of Geophysical Research</i> , 1998, 103, 14897-14910.	3.3	73
126	Magnetic field line transport in three dimensional turbulence: Lévy random walk and spectrum models. <i>Physics of Plasmas</i> , 1998, 5, 1288-1297.	1.9	49

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127	Spreading and intermittent structure of the upstream boundary of planetary magnetic foreshocks. <i>Geophysical Research Letters</i> , 1996, 23, 793-796.	4.0	14
128	Fractal structures and power law spectra in the distant Earth's magnetotail. <i>Journal of Geophysical Research</i> , 1996, 101, 19903-19910.	3.3	66
129	Field-line transport in stochastic magnetic fields: Percolation, Lévy flights, and non-Gaussian dynamics. <i>Physical Review E</i> , 1995, 51, 1412-1415.	2.1	51
130	Anomalous diffusion and Lévy random walk of magnetic field lines in three dimensional turbulence. <i>Physics of Plasmas</i> , 1995, 2, 2653-2663.	1.9	109
131	Observable implications of tearing-mode instability in Jupiter's nightside magnetosphere. <i>Planetary and Space Science</i> , 1993, 41, 357-361.	1.7	13
132	Electron whistler interaction at the Earth's bow shock: 1. Whistler instability. <i>Journal of Geophysical Research</i> , 1993, 98, 13325-13333.	3.3	28
133	Electron whistler interaction at the Earth's bow shock: 2. Electron pitch angle diffusion. <i>Journal of Geophysical Research</i> , 1993, 98, 13335-13346.	3.3	32
134	Chaotic collisionless reconnection in Jupiter's nightside magnetosphere. <i>Il Nuovo Cimento Della Società Italiana Di Fisica C</i> , 1992, 15, 645-655.	0.2	0
135	Collisionless reconnection in Jupiter's magnetotail. <i>Geophysical Research Letters</i> , 1991, 18, 741-744.	4.0	7
136	A self-consistent picture of Jupiter's nightside magnetosphere. <i>Journal of Geophysical Research</i> , 1989, 94, 8707-8719.	3.3	16
137	Diffusion coefficient and Kolmogorov entropy of magnetic field lines. <i>Journal of Plasma Physics</i> , 1984, 32, 141-158.	2.1	27
138	Multiscale Magnetic Structure of the Distant Tail: Self-Consistent Fractal Approach. <i>Geophysical Monograph Series</i> , 0, , 321-339.	0.1	21
139	The first Coronal Mass Ejection observed in both visible-light and UV H I Ly-alpha channels of the Metis Coronagraph on board Solar Orbiter. <i>Astronomy and Astrophysics</i> , 0, , .	5.1	11
140	Reconstruction of the magnetic connection from Mercury to the solar corona during enhancements in the solar proton fluxes at Mercury. <i>Astronomy and Astrophysics</i> , 0, , .	5.1	0