

Gaetano Zimbardo

List of Publications by Year in descending order

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140
papers

3,087
citations

159585

30
h-index

197818

49
g-index

143
all docs

143
docs citations

143
times ranked

1267
citing authors

#	ARTICLE	IF	CITATIONS
1	Characteristics of EUV Coronal Jets Observed with ASTEREO/SECCHI. <i>Solar Physics</i> , 2009, 259, 87-108.	2.5	145
2	Magnetic Turbulence in the Geospace Environment. <i>Space Science Reviews</i> , 2010, 156, 89-134.	8.1	124
3	Superdiffusive and Subdiffusive Transport of Energetic Particles in Solar Wind Anisotropic Magnetic Turbulence. <i>Astrophysical Journal</i> , 2006, 639, L91-L94.	4.5	114
4	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
5	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
6	Evidence of Superdiffusive Transport of Electrons Accelerated at Interplanetary Shocks. <i>Astrophysical Journal</i> , 2007, 671, L177-L180.	4.5	82
7	ION SUPERDIFFUSION AT THE SOLAR WIND TERMINATION SHOCK. <i>Astrophysical Journal</i> , 2009, 693, L118-L121.	4.5	78
8	Anomalous, non-Gaussian transport of charged particles in anisotropic magnetic turbulence. <i>Physics of Plasmas</i> , 2007, 14, 012311.	1.9	76
9	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
10	Superdiffusive transport of electrons accelerated at corotating interaction regions. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	68
11	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
12	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
13	Anomalous particle diffusion and Lévy 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
14	On the magnetic field fluctuations during magnetospheric tail current disruption: A statistical approach. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	59
15	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
16	FROM LÉVY WALKS TO SUPERDIFFUSIVE SHOCK ACCELERATION. <i>Astrophysical Journal</i> , 2013, 778, 35.	4.5	51
17	Magnetic flux tube evolution in solar wind anisotropic magnetic turbulence. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	50
18	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

#	ARTICLE	IF	CITATIONS
19	Ion and electron superdiffusive transport in the interplanetary space. <i>Advances in Space Research</i> , 2009, 44, 465-470.	2.6	48
20	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
21	Anomalous particle transport in the heliosphere. <i>Advances in Space Research</i> , 2012, 49, 1633-1642.	2.6	47
22	Kubo number and magnetic field line diffusion coefficient for anisotropic magnetic turbulence. <i>Physical Review E</i> , 2001, 63, 066405.	2.1	46
23	SUPERDIFFUSIVE SHOCK ACCELERATION. <i>Astrophysical Journal</i> , 2012, 750, 87.	4.5	46
24	Methods for Characterising Microphysical Processes in Plasmas. <i>Space Science Reviews</i> , 2013, 178, 665-693.	8.1	45
25	Parameter estimation of superdiffusive motion of energetic particles upstream of heliospheric shocks. <i>Astronomy and Astrophysics</i> , 2015, 578, A2.	5.1	37
26	Anomalous and Gaussian transport regimes in anisotropic three-dimensional magnetic turbulence. <i>Physical Review E</i> , 1999, 59, 2244-2252.	2.1	36
27	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
28	Self-organized branching of magnetotail current systems near the percolation threshold. <i>Journal of Geophysical Research</i> , 2001, 106, 6291-6307.	3.3	33
29	Electron ω -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
30	Superdiffusive transport in laboratory and astrophysical plasmas. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	32
31	Stochastic and direct acceleration mechanisms in the Earth's magnetotail. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	30
32	Observational features of equatorial coronal hole jets. <i>Annales Geophysicae</i> , 2010, 28, 687-696.	1.6	30
33	Superballistic transport in tearing driven magnetic turbulence. <i>Physics of Plasmas</i> , 2000, 7, 1071-1074.	1.9	29
34	Electron ω -whistler interaction at the Earth's bow shock: 1. Whistler instability. <i>Journal of Geophysical Research</i> , 1993, 98, 13325-13333.	3.3	28
35	Diffusion coefficient and Kolmogorov entropy of magnetic field lines. <i>Journal of Plasma Physics</i> , 1984, 32, 141-158.	2.1	27
36	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

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37	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
38	MAGNETIC VARIANCES AND PITCH-ANGLE SCATTERING TIMES UPSTREAM OF INTERPLANETARY SHOCKS. <i>Astrophysical Journal</i> , 2012, 754, 8.	4.5	26
39	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
40	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
41	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
42	Percolation in sign-symmetric random fields: Topological aspects and numerical modeling. <i>Physical Review E</i> , 2000, 62, 250-260.	2.1	24
43	Heavy ion reflection and heating by collisionless shocks in polar solar corona. <i>Planetary and Space Science</i> , 2011, 59, 468-474.	1.7	24
44	Heavy ion acceleration at dipolarization fronts in planetary magnetotails. <i>Geophysical Research Letters</i> , 2015, 42, 8280-8287.	4.0	24
45	SHORT ACCELERATION TIMES FROM SUPERDIFFUSIVE SHOCK ACCELERATION IN THE HELIOSPHERE. <i>Astrophysical Journal</i> , 2015, 815, 75.	4.5	23
46	Fractional Parker equation for the transport of cosmic rays: steady-state solutions. <i>Astronomy and Astrophysics</i> , 2017, 607, A7.	5.1	23
47	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
48	On the energization of protons interacting with 3-D time-dependent electromagnetic fields in the Earth's magnetotail. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	22
49	Quasi-ballistic and superdiffusive transport for impulsive solar particle events. <i>Astronomy and Astrophysics</i> , 2011, 530, A130.	5.1	22
50	Multiscale Magnetic Structure of the Distant Tail: Self-Consistent Fractal Approach. <i>Geophysical Monograph Series</i> , 0, , 321-339.	0.1	21
51	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
52	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
53	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
54	Energetic particle transport in anisotropic magnetic turbulence. <i>Advances in Space Research</i> , 2005, 35, 647-652.	2.6	19

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55	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
56	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
57	North-south asymmetry in the magnetic deflection of polar coronal hole jets. <i>Astronomy and Astrophysics</i> , 2015, 583, A127.	5.1	18
58	Magnetic turbulence in and around the Earth's magnetosphere. <i>Astrophysics and Space Sciences Transactions</i> , 2008, 4, 35-40.	1.0	18
59	Stochastic Fermi acceleration in the magnetotail current sheet: A numerical study. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	17
60	A self-consistent picture of Jupiter's nightside magnetosphere. <i>Journal of Geophysical Research</i> , 1989, 94, 8707-8719.	3.3	16
61	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
62	High energy particle transport in stochastic magnetic fields in the solar corona. <i>Astronomy and Astrophysics</i> , 2007, 462, 1113-1120.	5.1	16
63	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
64	Spreading and intermittent structure of the upstream boundary of planetary magnetic foreshocks. <i>Geophysical Research Letters</i> , 1996, 23, 793-796.	4.0	14
65	Preferential acceleration of heavy ions in the reconnection outflow region. <i>Astronomy and Astrophysics</i> , 2014, 562, A58.	5.1	14
66	Observable implications of tearing-mode instability in Jupiter's nightside magnetosphere. <i>Planetary and Space Science</i> , 1993, 41, 357-361.	1.7	13
67	Model of strong stationary vortex turbulence in space plasmas. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 11-22.	1.3	13
68	Kolmogorov entropy of magnetic field lines in the percolation regime. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 015005.	2.1	13
69	Determination of temperature maps of EUV coronal hole jets. <i>Advances in Space Research</i> , 2011, 48, 1490-1498.	2.6	13
70	Current sheets with inhomogeneous plasma temperature: Effects of polarization electric field and 2D solutions. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	13
71	Superdiffusive shock acceleration at galaxy cluster shocks. <i>Nature Astronomy</i> , 2017, 1, .	10.1	13
72	Magnetosheath interaction with high latitude magnetopause: Dynamic flow chaotization. <i>Planetary and Space Science</i> , 2005, 53, 133-140.	1.7	12

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73	Charged particle acceleration by intermittent electromagnetic turbulence. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	12
74	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
75	Magnetic turbulence and particle dynamics in the Earth's magnetotail. <i>Annales Geophysicae</i> , 2003, 21, 1947-1953.	1.6	11
76	Double peak structure and diamagnetic wings of the magnetotail current sheet. <i>Annales Geophysicae</i> , 2004, 22, 2541-2546.	1.6	11
77	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
78	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
79	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
80	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
81	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
82	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
83	ELECTRON TRANSPORT IN CORONAL LOOPS: THE INFLUENCE OF THE EXPONENTIAL SEPARATION OF MAGNETIC FIELD LINES. <i>Astrophysical Journal</i> , 2010, 719, 1912-1917.	4.5	10
84	Particle dynamics in the field of two waves in a magnetoplasma. <i>Plasma Physics and Controlled Fusion</i> , 2014, 56, 095002.	2.1	10
85	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
86	Proton and heavy ion acceleration by stochastic fluctuations in the Earth's magnetotail. <i>Annales Geophysicae</i> , 2016, 34, 917-926.	1.6	9
87	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
88	Collisionless reconnection in Jupiter's magnetotail. <i>Geophysical Research Letters</i> , 1991, 18, 741-744.	4.0	7
89	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
90	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

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91	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
92	On the Power-Law Distribution of Pitch-Angle Scattering Times in Solar Wind Turbulence. <i>Solar Physics</i> , 2019, 294, 1.	2.5	7
93	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
94	Observations of anomalous transport of energetic electrons in the heliosphere. <i>Astrophysics and Space Sciences Transactions</i> , 2008, 4, 27-30.	1.0	7
95	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
96	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
97	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
98	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
99	The Influence of Magnetic Turbulence on the Energetic Particle Transport Upstream of Shock Waves. <i>Atmosphere</i> , 2021, 12, 508.	2.3	6
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	On the Fractional Diffusion-Advection Equation for Fluids and Plasmas. <i>Fluids</i> , 2019, 4, 62.	1.7	5
102	Charged-particle chaotic dynamics in rotational discontinuities. <i>Physical Review E</i> , 2021, 104, 025208.	2.1	5
103	Energetic Particle Superdiffusion in Solar System Plasmas: Which Fractional Transport Equation?. <i>Symmetry</i> , 2021, 13, 2368.	2.2	5
104	Title is missing!. <i>Astrophysics and Space Science</i> , 2001, 277, 101-102.	1.4	4
105	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
106	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
107	Evidence for superdiffusive shock acceleration at interplanetary shock waves. <i>Journal of Physics: Conference Series</i> , 2015, 642, 012020.	0.4	4
108	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

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109	Visualizing Particle Transport Across Magnetic Flux Tubes in Anisotropic Magnetic Turbulence. IEEE Transactions on Plasma Science, 2008, 36, 1114-1115.	1.3	3
110	Large-scale zonal flow and magnetic field generation due to drift-Alfvén turbulence in ionosphere plasma. Planetary and Space Science, 2009, 57, 1474-1484.	1.7	3
111	More than Mass Proportional Heating of Heavy Ions by Collisionless Quasi-Perpendicular Shocks in the Solar Corona. , 2010, , .		3
112	In Situ Evidence of Ion Acceleration between Consecutive Reconnection Jet Fronts. Astrophysical Journal, 2021, 908, 73.	4.5	3
113	Magnetic field line transport in the solar wind anisotropic turbulence. , 1999, , .		2
114	Title is missing!. Astrophysics and Space Science, 2001, 277, 97-100.	1.4	2
115	Magnetic Turbulence and Ion Dynamics in the Magnetotail. Astrophysics and Space Science, 2001, 277, 71-79.	1.4	2
116	Ion penetration into the magnetosphere through the turbulent magnetopause. Advances in Space Research, 2003, 31, 1437-1442.	2.6	2
117	Numerical simulation of anomalous plasma transport in the presence of magnetic turbulence. Communications in Nonlinear Science and Numerical Simulation, 2003, 8, 443-453.	3.3	2
118	Ion transport through the turbulent magnetopause: Calculations of the distribution function moments. Planetary and Space Science, 2005, 53, 141-147.	1.7	2
119	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
120	Superdiffusive Transport Upstream of the Solar Wind Termination Shock. , 2010, , .		2
121	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
122	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
123	Energetic particle fluxes at heliospheric shocks: Evidences of superdiffusion and comparison between analytical and numerical modeling. New Astronomy, 2021, 87, 101605.	1.8	2
124	Solar-Terrestrial Relations: Magnetic Turbulence in the Earth's Magnetosphere and Geomagnetic Activity. Earth, Moon and Planets, 2009, 104, 127-129.	0.6	1
125	Nonclassical Transport and Particle-Field Coupling: from Laboratory Plasmas to the Solar Wind. Space Sciences Series of ISSI, 2013, , 157-194.	0.0	1
126	Non Gaussian and Non Local Transport in the Earth's Distant Magnetotail. , 2001, , 35-38.		1

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127	Chaotic collisionless reconnection in Jupiter's nightside magnetosphere. Il Nuovo Cimento Della Societ� Italiana Di Fisica C, 1992, 15, 645-655.	0.2	0
128	Predictions for the propagation of energetic particles from the sun to the earth: influence of the magnetic turbulence. Physics and Chemistry of the Earth, Part C: Solar, Terrestrial and Planetary Science, 2001, 26, 595-599.	0.2	0
129	Non Gaussian and Non Local Transport in the Earth's Distant Magnetotail. Astrophysics and Space Science, 2001, 277, 35-38.	1.4	0
130	DIFFUSIVE AND ANOMALOUS MAGNETIC FIELD LINES TRANSPORT IN ANISOTROPIC TURBULENCE. Fractals, 2002, 10, 313-319.	3.7	0
131	Ion dynamics in the turbulent magnetotail-hidden influence of average closed field line topology. Advances in Space Research, 2002, 30, 1657-1662.	2.6	0
132	Particle Transport in the Solar Wind Magnetic Turbulence: a Numerical Investigation. AIP Conference Proceedings, 2003, , .	0.4	0
133	Superdiffusive and ballistic propagation of protons in solar energetic particle events. Proceedings of the International Astronomical Union, 2010, 6, 198-200.	0.0	0
134	Stochastic Fermi acceleration in the Earth's magnetotail current sheet: Numerical studies. , 2011, , .		0
135	Non diffusive propagation of solar energetic particles : data analysis and numerical simulations. EAS Publications Series, 2012, 58, 99-102.	0.3	0
136	Magnetic Field Line Transport in Anisotropic Magnetic Turbulence: Anomalous, Quasilinear, and Percolative Regimes Versus the Kubo Number. , 2001, , 101-102.		0
137	Magnetic Field Line Transport in the Heliosphere and Energetic Particle Propagation from Corotating Interaction Regions to High Heliographic Latitudes. , 2001, , 97-100.		0
138	L�VY WALKS FOR ENERGETIC ELECTRONS DETECTED BY THE ULYSSES SPACECRAFT AT 5 AU. , 2008, , .		0
139	Superdiffusive Transport at Shocks in Space Plasmas. Thirty Years of Astronomical Discovery With UKIRT, 2012, , 153-158.	0.3	0
140	Reconstruction of the magnetic connection from Mercury to the solar corona during enhancements in the solar proton fluxes at Mercury. Astronomy and Astrophysics, 0, , .	5.1	0