

David I Pontin

List of Publications by Year in descending order

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71
papers

2,107
citations

201674

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243625

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75
all docs

75
docs citations

75
times ranked

1125
citing authors

#	ARTICLE	IF	CITATIONS
1	The Dynamic Coupling of Streamers and Pseudostreamers to the Heliosphere. <i>Astrophysical Journal</i> , 2022, 929, 185.	4.5	3
2	Magnetic reconnection: MHD theory and modelling. <i>Living Reviews in Solar Physics</i> , 2022, 19, 1.	22.0	43
3	The Dynamic Structure of Coronal Hole Boundaries. <i>Astrophysical Journal</i> , 2022, 931, 96.	4.5	4
4	Parallel Plasma Loops and the Energization of the Solar Corona. <i>Astrophysical Journal</i> , 2022, 933, 153.	4.5	5
5	Effects of Pseudostreamer Boundary Dynamics on Heliospheric Field and Wind. <i>Astrophysical Journal</i> , 2021, 909, 10.	4.5	9
6	The Dynamic Formation of Pseudostreamers. <i>Astrophysical Journal</i> , 2021, 913, 64.	4.5	8
7	Topological constraints in the reconnection of vortex braids. <i>Physics of Fluids</i> , 2021, 33, .	4.0	5
8	Magnetic reconnection and the Kelvin-Helmholtz instability in the solar corona. <i>Astronomy and Astrophysics</i> , 2021, 656, A112.	5.1	10
9	Is Flare Ribbon Fine Structure Related to Tearing in the Flare Current Sheet?. <i>Astrophysical Journal</i> , 2021, 920, 102.	4.5	7
10	Spatially Separated Electron and Proton Beams in a Simulated Solar Coronal Jet. <i>Astrophysical Journal</i> , 2021, 923, 163.	4.5	5
11	The Parker problem: existence of smooth force-free fields and coronal heating. <i>Living Reviews in Solar Physics</i> , 2020, 17, 1.	22.0	19
12	Non-thermal line broadening due to braiding-induced turbulence in solar coronal loops. <i>Astronomy and Astrophysics</i> , 2020, 639, A21.	5.1	9
13	A comparison of methods for finding magnetic nulls in simulations and in situ observations of space plasmas. <i>Astronomy and Astrophysics</i> , 2020, 644, A150.	5.1	2
14	Do Current and Magnetic Helicities Have the Same Sign?. <i>Astrophysical Journal</i> , 2019, 884, 55.	4.5	7
15	SOTE: A Nonlinear Method for Magnetic Topology Reconstruction in Space Plasmas. <i>Astrophysical Journal</i> , Supplement Series, 2019, 244, 31.	7.7	26
16	On the periodicity of linear and nonlinear oscillatory reconnection. <i>Astronomy and Astrophysics</i> , 2019, 621, A106.	5.1	21
17	Proton acceleration at tearing coronal null-point current sheets. <i>Astronomy and Astrophysics</i> , 2019, 622, A207.	5.1	3
18	Reconnection of vortex tubes with axial flow. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	12

#	ARTICLE	IF	CITATIONS
19	Magnetic Structures at the Boundary of the Closed Corona: A Semi-automated Study of S-Web Morphology. <i>Astrophysical Journal</i> , 2019, 882, 125.	4.5	9
20	Estimating the Rate of Field Line Braiding in the Solar Corona by Photospheric Flows. <i>Astrophysical Journal</i> , 2018, 864, 157.	4.5	9
21	Implosive Collapse about Magnetic Null Points: A Quantitative Comparison between 2D and 3D Nulls. <i>Astrophysical Journal</i> , 2018, 855, 50.	4.5	11
22	Magnetic Structures at the Boundary of the Closed Corona: Interpretation of S-Web Arcs. <i>Astrophysical Journal</i> , 2018, 869, 60.	4.5	18
23	Resistively-limited current sheet implosions in planar anti-parallel (1D) and null-point containing (2D) magnetic field geometries. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	7
24	Vortex line topology during vortex tube reconnection. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	11
25	10.1063/1.5035489.3. , 2018, , .		0
26	Observable Signatures of Energy Release in Braided Coronal Loops. <i>Astrophysical Journal</i> , 2017, 837, 108.	4.5	38
27	Quantifying the tangling of trajectories using the topological entropy. <i>Chaos</i> , 2017, 27, 093102.	2.5	9
28	Three-dimensional Oscillatory Magnetic Reconnection. <i>Astrophysical Journal</i> , 2017, 844, 2.	4.5	57
29	On the Magnetic Squashing Factor and the Lie Transport of Tangents. <i>Astrophysical Journal</i> , 2017, 848, 117.	4.5	15
30	EFFECTS OF FIELD-LINE TOPOLOGY ON ENERGY PROPAGATION IN THE CORONA. <i>Astrophysical Journal</i> , 2016, 832, 150.	4.5	7
31	Magnetic field line braiding in the solar atmosphere. <i>Proceedings of the International Astronomical Union</i> , 2016, 12, 77-81.	0.0	0
32	Why Are Flare Ribbons Associated with the Spines of Magnetic Null Points Generically Elongated?. <i>Solar Physics</i> , 2016, 291, 1739-1759.	2.5	32
33	Braided magnetic fields: equilibria, relaxation and heating. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 054008.	2.1	20
34	THE STRUCTURE OF CURRENT LAYERS AND DEGREE OF FIELD-LINE BRAIDING IN CORONAL LOOPS. <i>Astrophysical Journal</i> , 2015, 805, 47.	4.5	26
35	THE EFFECT OF RECONNECTION ON THE STRUCTURE OF THE SUN'S OPEN-CLOSED FLUX BOUNDARY. <i>Astrophysical Journal</i> , 2015, 805, 39.	4.5	28
36	MAGNETIC FIELD RELAXATION AND CURRENT SHEETS IN AN IDEAL PLASMA. <i>Astrophysical Journal</i> , 2015, 808, 134.	4.5	11

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37	Dynamic topology and flux rope evolution during non-linear tearing of 3D null point current sheets. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	43
38	Non-linear tearing of 3D null point current sheets. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	49
39	Mimetic Methods for Lagrangian Relaxation of Magnetic Fields. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, B952-B968.	2.8	12
40	CURRENT SINGULARITIES IN LINE-TIED THREE-DIMENSIONAL MAGNETIC FIELDS. <i>Astrophysical Journal</i> , 2014, 788, 177.	4.5	16
41	On the Relaxation of Braided Magnetic Fields. <i>Procedia IUTAM</i> , 2013, 9, 110-120.	1.2	2
42	Kelvin-Helmholtz instability in a current-vortex sheet at a 3D magnetic null. <i>Physics of Plasmas</i> , 2013, 20, 032117.	1.9	12
43	ON THE NATURE OF RECONNECTION AT A SOLAR CORONAL NULL POINT ABOVE A SEPARATRIX DOME. <i>Astrophysical Journal</i> , 2013, 774, 154.	4.5	76
44	Theory of magnetic reconnection in solar and astrophysical plasmas. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2012, 370, 3169-3192.	3.4	35
45	ON THE FORMATION OF CURRENT SHEETS IN RESPONSE TO THE COMPRESSION OR EXPANSION OF A POTENTIAL MAGNETIC FIELD. <i>Astrophysical Journal</i> , 2012, 756, 7.	4.5	15
46	Spine-fan reconnection. <i>Astronomy and Astrophysics</i> , 2012, 545, A78.	5.1	10
47	Steady state reconnection at a single 3D magnetic null point. <i>Astronomy and Astrophysics</i> , 2011, 529, A20.	5.1	34
48	Generalised models for torsional spine and fan magnetic reconnection. <i>Astronomy and Astrophysics</i> , 2011, 533, A78.	5.1	37
49	Current accumulation at an asymmetric 3D null point caused by generic shearing motions. <i>Astronomy and Astrophysics</i> , 2011, 534, A2.	5.1	31
50	Three-dimensional magnetic reconnection regimes: A review. <i>Advances in Space Research</i> , 2011, 47, 1508-1522.	2.6	124
51	Dynamics of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2011, 525, A57.	5.1	75
52	The chemical evolution of elliptical galaxies with stellar and QSO dust production. <i>Astronomy and Astrophysics</i> , 2011, 525, A61.	5.1	65
53	Heating of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2011, 536, A67.	5.1	40
54	Magnetic reconnection at 3D null points: effect of magnetic field asymmetry. <i>Astronomy and Astrophysics</i> , 2010, 512, A84.	5.1	25

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55	Dynamics of braided coronal loops. <i>Astronomy and Astrophysics</i> , 2010, 516, A5.	5.1	67
56	Three-dimensional null point reconnection regimes. <i>Physics of Plasmas</i> , 2009, 16, 122101.	1.9	125
57	Dynamics and waves near multiple magnetic null points in reconnection diffusion region. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	37
58	MAGNETIC BRAIDING AND PARALLEL ELECTRIC FIELDS. <i>Astrophysical Journal</i> , 2009, 696, 1339-1347.	4.5	55
59	MAGNETIC BRAIDING AND QUASI-SEPARATRIX LAYERS. <i>Astrophysical Journal</i> , 2009, 704, 1288-1295.	4.5	49
60	LAGRANGIAN RELAXATION SCHEMES FOR CALCULATING FORCE-FREE MAGNETIC FIELDS, AND THEIR LIMITATIONS. <i>Astrophysical Journal</i> , 2009, 700, 1449-1455.	4.5	18
61	Current sheet formation and nonideal behavior at three-dimensional magnetic null points. <i>Physics of Plasmas</i> , 2007, 14, 052106.	1.9	78
62	Current sheets at three-dimensional magnetic nulls: Effect of compressibility. <i>Physics of Plasmas</i> , 2007, 14, 052109.	1.9	27
63	Current amplification and magnetic reconnection at a three-dimensional null point: Physical characteristics. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	85
64	Dynamic Three-dimensional Reconnection in a Separator Geometry with Two Null Points. <i>Astrophysical Journal</i> , 2006, 642, 568-578.	4.5	22
65	Kinematic reconnection at a magnetic null point: fan-aligned current. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2005, 99, 77-93.	1.2	81
66	Current singularities at finitely compressible three-dimensional magnetic null points. <i>Physics of Plasmas</i> , 2005, 12, 072112.	1.9	46
67	A fully magnetohydrodynamic simulation of three-dimensional non-null reconnection. <i>Physics of Plasmas</i> , 2005, 12, 052307.	1.9	36
68	Kinematic reconnection at a magnetic null point: spine-aligned current. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2004, 98, 407-428.	1.2	61
69	Magnetic Reconnection. <i>Astrophysics and Space Science Library</i> , 2004, , 397-422.	2.7	1
70	A Framework for Understanding the Topology of Complex Coronal Structures. <i>Solar Physics</i> , 2003, 212, 319-342.	2.5	5
71	On the nature of three-dimensional magnetic reconnection. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	107