David I Pontin

List of Publications by Year
in descending order

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71 papers	2,107 citations	201674 27 h-index	243625 44 g-index
75 all docs	75 docs citations	75 times ranked	1125 citing authors

#	Article	IF	Citations
1	Three-dimensional null point reconnection regimes. Physics of Plasmas, 2009, 16, 122101.	1.9	125
2	Three-dimensional magnetic reconnection regimes: A review. Advances in Space Research, 2011, 47, 1508-1522.	2.6	124
3	On the nature of three-dimensional magnetic reconnection. Journal of Geophysical Research, 2003, 108, .	3.3	107
4	Current amplification and magnetic reconnection at a three-dimensional null point: Physical characteristics. Journal of Geophysical Research, 2007, 112, n/a-n/a.	3.3	85
5	Kinematic reconnection at a magnetic null point: fan-aligned current. Geophysical and Astrophysical Fluid Dynamics, 2005, 99, 77-93.	1.2	81
6	Current sheet formation and nonideal behavior at three-dimensional magnetic null points. Physics of Plasmas, 2007, 14, 052106.	1.9	78
7	ON THE NATURE OF RECONNECTION AT A SOLAR CORONAL NULL POINT ABOVE A SEPARATRIX DOME. Astrophysical Journal, 2013, 774, 154.	4.5	76
8	Dynamics of braided coronal loops. Astronomy and Astrophysics, 2011, 525, A57.	5.1	75
9	Dynamics of braided coronal loops. Astronomy and Astrophysics, 2010, 516, A5.	5.1	67
10	The chemical evolution of elliptical galaxies with stellar and QSO dust production. Astronomy and Astrophysics, 2011, 525, A61.	5.1	65
11	Kinematic reconnection at a magnetic null point: spine-aligned current. Geophysical and Astrophysical Fluid Dynamics, 2004, 98, 407-428.	1.2	61
12	Three-dimensional Oscillatory Magnetic Reconnection. Astrophysical Journal, 2017, 844, 2.	4.5	57
13	MAGNETIC BRAIDING AND PARALLEL ELECTRIC FIELDS. Astrophysical Journal, 2009, 696, 1339-1347.	4.5	55
14	MAGNETIC BRAIDING AND QUASI-SEPARATRIX LAYERS. Astrophysical Journal, 2009, 704, 1288-1295.	4.5	49
15	Non-linear tearing of 3D null point current sheets. Physics of Plasmas, 2014, 21, .	1.9	49
16	Current singularities at finitely compressible three-dimensional magnetic null points. Physics of Plasmas, 2005, 12, 072112.	1.9	46
17	Dynamic topology and flux rope evolution during non-linear tearing of 3D null point current sheets. Physics of Plasmas, 2014, 21, .	1.9	43
18	Magnetic reconnection: MHD theory and modelling. Living Reviews in Solar Physics, 2022, 19, 1.	22.0	43

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19	Heating of braided coronal loops. Astronomy and Astrophysics, 2011, 536, A67.	5.1	40
20	Observable Signatures of Energy Release in Braided Coronal Loops. Astrophysical Journal, 2017, 837, 108.	4.5	38
21	Dynamics and waves near multiple magnetic null points in reconnection diffusion region. Journal of Geophysical Research, 2009, 114, .	3.3	37
22	Generalised models for torsional spine and fan magnetic reconnection. Astronomy and Astrophysics, 2011, 533, A78.	5.1	37
23	A fully magnetohydrodynamic simulation of three-dimensional non-null reconnection. Physics of Plasmas, 2005, 12, 052307.	1.9	36
24	Theory of magnetic reconnection in solar and astrophysical plasmas. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 3169-3192.	3.4	35
25	Steady state reconnection at a single 3D magnetic null point. Astronomy and Astrophysics, 2011, 529, A20.	5.1	34
26	Why Are Flare Ribbons Associated with the Spines of Magnetic Null Points Generically Elongated?. Solar Physics, 2016, 291, 1739-1759.	2.5	32
27	Current accumulation at an asymmetric 3D null point caused by generic shearing motions. Astronomy and Astrophysics, 2011, 534, A2.	5.1	31
28	THE EFFECT OF RECONNECTION ON THE STRUCTURE OF THE SUNâ€™S OPENâ€“CLOSED FLUX BOUNDARY. Astrophysical Journal, 2015, 805, 39.	4.5	28
29	Current sheets at three-dimensional magnetic nulls: Effect of compressibility. Physics of Plasmas, 2007, 14, 052109.	1.9	27
30	THE STRUCTURE OF CURRENT LAYERS AND DEGREE OF FIELD-LINE BRAIDING IN CORONAL LOOPS. Astrophysical Journal, 2015, 805, 47.	4.5	26
31	SOTE: A Nonlinear Method for Magnetic Topology Reconstruction in Space Plasmas. Astrophysical Journal, Supplement Series, 2019, 244, 31.	7.7	26
32	Magnetic reconnection at 3D null points: effect of magnetic field asymmetry. Astronomy and Astrophysics, 2010, 512, A84.	5.1	25
33	Dynamic Threeâ€dimensional Reconnection in a Separator Geometry with Two Null Points. Astrophysical Journal, 2006, 642, 568-578.	4.5	22
34	On the periodicity of linear and nonlinear oscillatory reconnection. Astronomy and Astrophysics, 2019, 621, A106.	5.1	21
35	Braided magnetic fields: equilibria, relaxation and heating. Plasma Physics and Controlled Fusion, 2016, 58, 054008.	2.1	20
36	The Parker problem: existence of smooth force-free fields and coronal heating. Living Reviews in Solar Physics, 2020, 17, 1.	22.0	19

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37	Magnetic Structures at the Boundary of the Closed Corona: Interpretation of S-Web Arcs. Astrophysical Journal, 2018, 869, 60.	4.5	18
38	LAGRANGIAN RELAXATION SCHEMES FOR CALCULATING FORCE-FREE MAGNETIC FIELDS, AND THEIR LIMITATIONS. Astrophysical Journal, 2009, 700, 1449-1455.	4.5	18
39	CURRENT SINGULARITIES IN LINE-TIED THREE-DIMENSIONAL MAGNETIC FIELDS. Astrophysical Journal, 2014, 788, 177.	4.5	16
40	ON THE FORMATION OF CURRENT SHEETS IN RESPONSE TO THE COMPRESSION OR EXPANSION OF A POTENTIAL MAGNETIC FIELD. Astrophysical Journal, 2012, 756, 7.	4.5	15
41	On the Magnetic Squashing Factor and the Lie Transport of Tangents. Astrophysical Journal, 2017, 848, 117.	4.5	15
42	Kelvin-Helmholtz instability in a current-vortex sheet at a 3D magnetic null. Physics of Plasmas, 2013, 20, 032117.	1.9	12
43	Mimetic Methods for Lagrangian Relaxation of Magnetic Fields. SIAM Journal of Scientific Computing, 2014, 36, B952-B968.	2.8	12
44	Reconnection of vortex tubes with axial flow. Physical Review Fluids, 2019, 4, .	2.5	12
45	MAGNETIC FIELD RELAXATION AND CURRENT SHEETS IN AN IDEAL PLASMA. Astrophysical Journal, 2015, 808, 134.	4.5	11
46	Implosive Collapse about Magnetic Null Points: A Quantitative Comparison between 2D and 3D Nulls. Astrophysical Journal, 2018, 855, 50.	4.5	11
47	Vortex line topology during vortex tube reconnection. Physical Review Fluids, 2018, 3, .	2.5	11
48	Magnetic reconnection and the Kelvin-Helmholtz instability in the solar corona. Astronomy and Astrophysics, 2021, 656, A112.	5.1	10
49	Spine-fan reconnection. Astronomy and Astrophysics, 2012, 545, A78.	5.1	10
50	Quantifying the tangling of trajectories using the topological entropy. Chaos, 2017, 27, 093102.	2.5	9
51	Estimating the Rate of Field Line Braiding in the Solar Corona by Photospheric Flows. Astrophysical Journal, 2018, 864, 157.	4.5	9
52	Effects of Pseudostreamer Boundary Dynamics on Heliospheric Field and Wind. Astrophysical Journal, 2021, 909, 10.	4.5	9
53	Non-thermal line broadening due to braiding-induced turbulence in solar coronal loops. Astronomy and Astrophysics, 2020, 639, A21.	5.1	9
54	Magnetic Structures at the Boundary of the Closed Corona: A Semi-automated Study of S-Web Morphology. Astrophysical Journal, 2019, 882, 125.	4.5	9

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55	The Dynamic Formation of Pseudostreamers. Astrophysical Journal, 2021, 913, 64.	4.5	8
56	EFFECTS OF FIELD-LINE TOPOLOGY ON ENERGY PROPAGATION IN THE CORONA. Astrophysical Journal, 2016, 832, 150.	4.5	7
57	Resistively-limited current sheet implosions in planar anti-parallel (1D) and null-point containing (2D) magnetic field geometries. Physics of Plasmas, 2018, 25, .	1.9	7
58	Do Current and Magnetic Helicities Have the Same Sign?. Astrophysical Journal, 2019, 884, 55.	4.5	7
59	Is Flare Ribbon Fine Structure Related to Tearing in the Flare Current Sheet?. Astrophysical Journal, 2021, 920, 102.	4.5	7
60	A Framework for Understanding the Topology of Complex Coronal Structures. Solar Physics, 2003, 212, 319-342.	2.5	5
61	Topological constraints in the reconnection of vortex braids. Physics of Fluids, 2021, 33, .	4.0	5
62	Spatially Separated Electron and Proton Beams in a Simulated Solar Coronal Jet. Astrophysical Journal, 2021, 923, 163.	4.5	5
63	Parallel Plasma Loops and the Energization of the Solar Corona. Astrophysical Journal, 2022, 933, 153.	4.5	5
64	The Dynamic Structure of Coronal Hole Boundaries. Astrophysical Journal, 2022, 931, 96.	4.5	4
65	Proton acceleration at tearing coronal null-point current sheets. Astronomy and Astrophysics, 2019, 622, A207.	5.1	3
66	The Dynamic Coupling of Streamers and Pseudostreamers to the Heliosphere. Astrophysical Journal, 2022, 929, 185.	4.5	3
67	On the Relaxation of Braided Magnetic Fields. Procedia IUTAM, 2013, 9, 110-120.	1.2	2
68	A comparison of methods for finding magnetic nulls in simulations and in situ observations of space plasmas. Astronomy and Astrophysics, 2020, 644, A150.	5.1	2
69	Magnetic Reconnection. Astrophysics and Space Science Library, 2004, , 397-422.	2.7	1
70	Magnetic field line braiding in the solar atmosphere. Proceedings of the International Astronomical Union, 2016, 12, 77-81.	0.0	0
71	10.1063/1.5035489.3. , 2018, , .		0