

# Peter Davidson

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

61  
papers

1,599  
citations

20  
h-index

38  
g-index

62  
ext. papers

1,806  
ext. citations

3.9  
avg, IF

5.35  
L-index

#	Paper	IF	Citations
61	MAGNETOHYDRODYNAMICS IN MATERIALS PROCESSING. <i>Annual Review of Fluid Mechanics</i> , <b>1999</b> , 31, 273-300	2.2	172
60	Turbulence in Rotating, Stratified and Electrically Conducting Fluids <b>2013</b> ,		147
59	Structure formation in homogeneous freely decaying rotating turbulence. <i>Journal of Fluid Mechanics</i> , <b>2008</b> , 598, 81-105	3.7	93
58	On the decay of isotropic turbulence. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 564, 455	3.7	91
57	Magnetic damping of jets and vortices. <i>Journal of Fluid Mechanics</i> , <b>1995</b> , 299, 153-186	3.7	85
56	On the evolution of eddies in a rapidly rotating system. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 557, 135	3.7	77
55	Freely decaying, homogeneous turbulence generated by multi-scale grids. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 680, 417-434	3.7	74
54	Geometry and interaction of structures in homogeneous isotropic turbulence. <i>Journal of Fluid Mechanics</i> , <b>2012</b> , 710, 453-481	3.7	71
53	The role of angular momentum in the magnetic damping of turbulence. <i>Journal of Fluid Mechanics</i> , <b>1997</b> , 336, 123-150	3.7	67
52	Stability of interfacial waves in aluminium reduction cells. <i>Journal of Fluid Mechanics</i> , <b>1998</b> , 362, 273-295	3.7	67
51	The logarithmic structure function law in wall-layer turbulence. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 550, 51	3.7	59
50	A new approach to numerical simulation of melt flows and interface instability in hall-héroult cells. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2000</b> , 31, 1541-1550	2.5	43
49	Near-field investigation of turbulence produced by multi-scale grids. <i>Physics of Fluids</i> , <b>2012</b> , 24, 035103	4.4	38
48	The dynamics and scaling laws of planetary dynamos driven by inertial waves. <i>Geophysical Journal International</i> , <b>2014</b> , 198, 1832-1847	2.6	31
47	On the formation of cyclones and anticyclones in a rotating fluid. <i>Physics of Fluids</i> , <b>2008</b> , 20, 085104	4.4	31
46	Identifying turbulent energy distributions in real, rather than fourier, space. <i>Physical Review Letters</i> , <b>2005</b> , 95, 214501	7.4	31
45	The importance of secondary flow in the rotary electromagnetic stirring of steel during continuous casting. <i>Flow, Turbulence and Combustion</i> , <b>1987</b> , 44, 241-259		30

44	On the decay of Saffman turbulence subject to rotation, stratification or an imposed magnetic field. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 663, 268-292	3.7	27
43	The role of angular momentum conservation in homogeneous turbulence. <i>Journal of Fluid Mechanics</i> , <b>2009</b> , 632, 329-358	3.7	26
42	Dynamics of stratified turbulence decaying from a high buoyancy Reynolds number. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 786, 210-233	3.7	22
41	The minimum energy decay rate in quasi-isotropic grid turbulence. <i>Physics of Fluids</i> , <b>2011</b> , 23, 085108	4.4	20
40	A universal scaling for low-order structure functions in the log-law region of smooth- and rough-wall boundary layers. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 752, 140-156	3.7	18
39	Evolution of a turbulent cloud under rotation. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 756, 488-509	3.7	18
38	Planetary dynamos driven by helical waves II. <i>Geophysical Journal International</i> , <b>2015</b> , 202, 1646-1662	2.6	17
37	A simple model for the streamwise fluctuations in the log-law region of a boundary layer. <i>Physics of Fluids</i> , <b>2009</b> , 21, 055105	4.4	17
36	Inertial-Alfvén waves as columnar helices in planetary cores. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 805,	3.7	14
35	On freely decaying, anisotropic, axisymmetric Saffman turbulence. <i>Journal of Fluid Mechanics</i> , <b>2012</b> , 706, 150-172	3.7	13
34	On the decay of low-magnetic-Reynolds-number turbulence in an imposed magnetic field. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 651, 295-318	3.7	13
33	On the large-scale structure of homogeneous two-dimensional turbulence. <i>Journal of Fluid Mechanics</i> , <b>2007</b> , 580, 431-450	3.7	13
32	The evolution of a stratified turbulent cloud. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 739, 229-253	3.7	12
31	A phenomenological theory of rotating turbulence. <i>Physics of Fluids</i> , <b>2015</b> , 27, 025107	4.4	11
30	Freely decaying two-dimensional turbulence. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 659, 351-364	3.7	11
29	Hydromagnetic edge waves and instability in reduction cells. <i>Journal of Fluid Mechanics</i> , <b>2003</b> , 493, 121-139	3.7	11
28	Internally driven inertial waves in geodynamo simulations. <i>Geophysical Journal International</i> , <b>2018</b> , 213, 1281-1295	2.6	9
27	Weak mean flows induced by anisotropic turbulence impinging onto planar and undulating surfaces. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 556, 329	3.7	9

26	On the spatial segregation of helicity by inertial waves in dynamo simulations and planetary cores. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 851, 268-287	3.7	8
25	Anisotropic evolution of small isolated vortices within the core of the Earth. <i>Physics of Fluids</i> , <b>2004</b> , 16, 1242-1254	4.4	8
24	On the application of the Kelvin-Arnold energy principle to the stability of forced two-dimensional inviscid flows. <i>Journal of Fluid Mechanics</i> , <b>1998</b> , 356, 221-257	3.7	8
23	Dynamos driven by helical waves: scaling laws for numerical dynamos and for the planets. <i>Geophysical Journal International</i> , <b>2016</b> , 207, 680-690	2.6	8
22	Eye formation in rotating convection. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 812, 890-904	3.7	6
21	The dispersion of magnetic-Coriolis waves in planetary cores. <i>Geophysical Journal International</i> , <b>2017</b> , 210, 18-26	2.6	6
20	A physical conjecture for the dipolar to multipolar dynamo transition. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 874, 995-1020	3.7	6
19	On the generation and flux of enstrophy in isotropic turbulence. <i>Journal of Turbulence</i> , <b>2008</b> , 9, N42	2.1	6
18	On the deficiency of even-order structure functions as inertial-range diagnostics. <i>Journal of Fluid Mechanics</i> , <b>2008</b> , 602, 287-302	3.7	6
17	Integral invariants of two-dimensional and quasigeostrophic shallow-water turbulence. <i>Physics of Fluids</i> , <b>2008</b> , 20, 075111	4.4	5
16	Cascades and fluxes in two-dimensional turbulence. <i>Physics of Fluids</i> , <b>2008</b> , 20, 025106	4.4	5
15	An energy criterion for the linear stability of conservative flows. <i>Journal of Fluid Mechanics</i> , <b>2000</b> , 402, 329-348	3.7	5
14	Are there two regimes in strongly rotating turbulence?. <i>Physics of Fluids</i> , <b>2016</b> , 28, 045103	4.4	5
13	Are planetary dynamos driven by helical waves?. <i>Journal of Plasma Physics</i> , <b>2018</b> , 84,	2.7	5
12	Long-range interactions in turbulence and the energy decay problem. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2011</b> , 369, 796-810	3	4
11	Evolution of localized blobs of swirling or buoyant fluid with and without an ambient magnetic field. <i>Physical Review E</i> , <b>2007</b> , 75, 026304	2.4	4
10	The competition between quadratic and integral invariants in inviscid truncated two-dimensional and quasigeostrophic shallow-water turbulence. <i>Physics of Fluids</i> , <b>2009</b> , 21, 125102	4.4	3
9	Evolution of a vortex in a rotating conducting fluid. <i>Journal of Fluid Mechanics</i> , <b>2003</b> , 493, 181-190	3.7	3

8	On the generation and segregation of helicity in geodynamo simulations. <i>Geophysical Journal International</i> , <b>2020</b> , 221, 741-757	2.6	3
7	The evolution of laminar thermals. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 878, 907-931	3.7	2
6	Energy constraints in forced recirculating MHD flows. <i>Journal of Fluid Mechanics</i> , <b>1998</b> , 375, 319-343	3.7	2
5	On the application of the Kelvin-Arnold energy principle to the stability of forced two-dimensional inviscid flows		1
4	DNS of a Buoyant Turbulent Cloud under Rapid Rotation <b>2016</b> , 452-460		1
3	Columnar heat transport via advection induced by inertial waves. <i>International Journal of Heat and Fluid Flow</i> , <b>2021</b> , 87, 108703	2.4	1
2	Rapidly-Rotating Turbulence and its Role in Planetary Dynamos <b>2016</b> , 35-59		
1	On the helicity characteristics and induced emf of magnetic-Coriolis wave packets. <i>Geophysical Journal International</i> , <b>2020</b> , 223, 1398-1411	2.6	