Emmanuel Dormy

List of Publications by Year
in descending order

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		159573	182417
91	2,786	30	51
papers	citations	h-index	g-index

101	101	101	1290
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A numerical dynamo benchmark. Physics of the Earth and Planetary Interiors, 2001, 128, 25-34.	1.9	224
2	The onset of thermal convection in rotating spherical shells. Journal of Fluid Mechanics, 2004, 501, 43-70.	3.4	181
3	On the ill-posedness of the Prandtl equation. Journal of the American Mathematical Society, 2009, 23, 591-609.	3.9	169
4	MHD flow in a slightly differentially rotating spherical shell, with conducting inner core, in a dipolar magnetic field. Earth and Planetary Science Letters, 1998, 160, 15-30.	4.4	165
5	Numerical models of the geodynamo and observational constraints. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a.	2.5	147
6	Simple Mechanism for Reversals of Earthâ€™s Magnetic Field. Physical Review Letters, 2009, 102, 144503.	7.8	134
7	DIPOLE COLLAPSE AND DYNAMO WAVES IN GLOBAL DIRECT NUMERICAL SIMULATIONS. Astrophysical Journal, 2012, 752, 121.	4.5	99
8	THE DYNAMO BIFURCATION IN ROTATING SPHERICAL SHELLS. International Journal of Modern Physics B, 2009, 23, 5467-5482.	2.0	98
9	New Observations From the SWIM Radar On-Board CFOSAT: Instrument Validation and Ocean Wave Measurement Assessment. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 5-26.	6.3	88
10	Kinematic dynamos using constrained transport with high order Godunov schemes and adaptive mesh refinement. Journal of Computational Physics, 2006, 218, 44-67.	3.8	83
11	Strong-field spherical dynamos. Journal of Fluid Mechanics, 2016, 789, 500-513.	3.4	73
12	Weak- and strong-field dynamos: from the Earth to the stars. Monthly Notices of the Royal Astronomical Society: Letters, 2011, 418, L133-L137.	3.3	60
13	Predictive scaling laws for spherical rotating dynamos. Geophysical Journal International, 2014, 198, 828-847.	2.4	59
14	Asymmetric behavior of magnetic dip poles. Earth, Planets and Space, 2003, 55, 153-157.	2.5	57
15	Oscillatory dynamos and their induction mechanisms. Astronomy and Astrophysics, 2011, 530, A140.	5.1	54
16	Numerical simulation of elastic wave propagation using a finite volume method. Journal of Geophysical Research, 1995, 100, 2123-2133.	3.3	53
17	Relations between the dynamo region geometry and the magnetic behavior of stars and planets. Europhysics Letters, 2008, 83, 59001.	2.0	53
18	Morphology of field reversals in turbulent dynamos. Europhysics Letters, 2010, 90, 49001.	2.0	50

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19	Effect of magnetic boundary conditions on the dynamo threshold of von KÃ¡rmÃ¡n swirling flows. Europhysics Letters, 2008, 82, 29001.	2.0	48
20	Revisiting the ABC flow dynamo. Physics of Fluids, 2013, 25, .	4.0	47
21	An integro-differential formulation for magnetic induction in bounded domains: boundary elementâ€“finite volume method. Journal of Computational Physics, 2004, 197, 540-554.	3.8	44
22	Transition between viscous dipolar and inertial multipolar dynamos. Geophysical Research Letters, 2014, 41, 7115-7120.	4.0	44
23	Stability of mixed Ekman-Hartmann boundary layers. Nonlinearity, 1999, 12, 181-199.	1.4	43
24	Direct numerical simulations of the galactic dynamo in the kinematic growing phase. Monthly Notices of the Royal Astronomical Society: Letters, 2009, 394, L84-L88.	3.3	40
25	Three branches of dynamo action. Fluid Dynamics Research, 2018, 50, 011415.	1.3	39
26	A super-rotating shear layer in magnetohydrodynamic spherical Couette flow. Journal of Fluid Mechanics, 2002, 452, 263-291.	3.4	36
27	Dipolar dynamos in stratified systems. Monthly Notices of the Royal Astronomical Society, 2015, 448, 2055-2065.	4.4	32
28	Influence of the mass distribution on the magnetic field topology. Astronomy and Astrophysics, 2014, 567, A107.	5.1	31
29	Time scales separation for dynamo action. Europhysics Letters, 2008, 81, 64002.	2.0	30
30	Axisymmetric and non-axisymmetric magnetostrophic MRI modes. Physics of the Earth and Planetary Interiors, 2013, 223, 21-31.	1.9	30
31	Time dependent Î²-convection in rapidly rotating spherical shells. Physics of Fluids, 2004, 16, 1603-1609.	4.0	29
32	Toward an asymptotic behaviour of the ABC dynamo. Europhysics Letters, 2015, 110, 14003.	2.0	29
33	Topology and field strength in spherical, anelastic dynamo simulations. Astronomy and Astrophysics, 2014, 564, A78.	5.1	25
34	Bypassing Cowlingâ€™s Theorem in Axisymmetric Fluid Dynamos. Physical Review Letters, 2008, 101, 144502.	7.8	24
35	Community composition predicts photogrammetry-based structural complexity on coral reefs. Coral Reefs, 2020, 39, 967-975.	2.2	24
36	Tracking geomagnetic impulses at the coreâ€“mantle boundary. Earth and Planetary Science Letters, 2005, 237, 300-309.	4.4	21

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37	Magnetostrophic MRI in the Earth's outer core. Geophysical Research Letters, 2008, 35, .	4.0	20
38	On magnetic boundary conditions for non-spectral dynamo simulations. Geophysical and Astrophysical Fluid Dynamics, 2005, 99, 481-492.	1.2	18
39	Bistability between Equatorial and Axial Dipoles during Magnetic Field Reversals. Physical Review Letters, 2012, 108, 234501.	7.8	16
40	Intermittency in spherical Couette dynamos. Physical Review E, 2013, 87, .	2.1	15
41	Shear-layers in magnetohydrodynamic spherical Couette flow with conducting walls. Journal of Fluid Mechanics, 2010, 645, 145-185.	3.4	14
42	Dissipation mechanisms for convection in rapidly rotating spheres and the formation of banded structures. Physics of Fluids, 2006, 18, 068104.	4.0	12
43	On the equatorial Ekman layer. Journal of Fluid Mechanics, 2016, 803, 395-435.	3.4	12
44	Eye formation in rotating convection. Journal of Fluid Mechanics, 2017, 812, 890-904.	3.4	12
45	Binary tree models of high-Reynolds-number turbulence. Physical Review E, 1997, 56, 1692-1698.	2.1	11
46	Instability of Ekmanâ€“Hartmann boundary layers, with application to the fluid flow near the coreâ€“mantle boundary. Physics of the Earth and Planetary Interiors, 2001, 124, 283-294.	1.9	11
47	Geomagnetism and the dynamo: where do we stand?. Comptes Rendus Physique, 2008, 9, 711-720.	0.9	11
48	Instability of Ekmanâ€“Hartmann boundary layers, with application to the fluid flow near the coreâ€“mantle boundary. Physics of the Earth and Planetary Interiors, 2001, 123, 15-26.	1.9	10
49	Oscillatory Convection in Rotating Spherical Shells: Low Prandtl Number and Non-Slip Boundary Conditions. SIAM Journal on Applied Dynamical Systems, 2015, 14, 1787-1807.	1.6	9
50	Formation of eyes in large-scale cyclonic vortices. Physical Review Fluids, 2018, 3, .	2.5	9
51	An Accurate Compact Treatment of Pressure for Colocated Variables. Journal of Computational Physics, 1999, 151, 676-683.	3.8	8
52	Stability and bifurcation of planetary dynamo models. Journal of Fluid Mechanics, 2011, 688, 1-4.	3.4	8
53	Equatorial symmetry breaking and the loss of dipolarity in rapidly rotating dynamos. Geophysical and Astrophysical Fluid Dynamics, 2017, 111, 380-393.	1.2	8
54	Boundary layer instability at the top of the Earth's outer core. Journal of Computational and Applied Mathematics, 2004, 166, 123-131.	2.0	6

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55	The origin of the Earth's magnetic field: fundamental or environmental research?. Europhysics News, 2006, 37, 22-25.	0.3	6
56	The Vortex Method for Two-Dimensional Ideal Flows in Exterior Domains. SIAM Journal on Mathematical Analysis, 2020, 52, 3881-3961.	1.9	5
57	Core, Boundary Layers. , 2007, , 111-116.		5
58	Ekman layers near wavy boundaries. Journal of Fluid Mechanics, 2006, 565, 115.	3.4	4
59	Spin-down in a rapidly rotating cylinder container with mixed rigid and stress-free boundary conditions. Journal of Fluid Mechanics, 2017, 818, 205-240.	3.4	3
60	Ocean Waves in the South Pacific: Complementarity of SWIM and SAR Observations. Earth and Space Science, 2022, 9, .	2.6	3
61	Mechanisms of planetary and stellar dynamos. Proceedings of the International Astronomical Union, 2012, 8, 163-173.	0.0	2
62	Energy transfers during dynamo reversals. Europhysics Letters, 2013, 104, 69002.	2.0	2
63	Multiâ€stage high order semiâ€Lagrangian schemes for incompressible flows in Cartesian geometries. International Journal for Numerical Methods in Fluids, 2016, 82, 879-892.	1.6	2
64	Rapid Oceanic Response to Tropical Cyclone Oli (2010) over the South Pacific. Journal of Physical Oceanography, 2017, 47, 471-483.	1.7	2
65	On the inertial wave activity during spin-down in a rapidly rotating penny shaped cylinder: aÂreduced model. Journal of Fluid Mechanics, 2020, 888, .	3.4	1
66	Action of differential rotation on the large-scale magnetic field of stars and planets. , 2012, , .		0
67	Astrophysical dynamos: the limit of vanishing diffusivity. Proceedings of the International Astronomical Union, 2015, 11, 727-729.	0.0	0
68	Magnetokinematic Preliminaries. , 2019, , 20-58.		0
69	Advection, Distortion and Diffusion. , 2019, , 59-98.		0
70	The Magnetic Field of the Earth and Planets. , 2019, , 99-120.		0
71	Astrophysical Magnetic Fields. , 2019, , 121-142.		0
72	Laminar Dynamo Theory. , 2019, , 145-184.		0

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73	Mean-Field Electrodynamics. , 2019, , 185-215.		0
74	Nearly Axisymmetric Dynamos. , 2019, , 216-230.		0
75	Solution of the Mean-Field Equations. , 2019, , 231-278.		0
76	The Fast Dynamo. , 2019, , 279-296.		0
77	Low-Dimensional Models of the Geodynamo. , 2019, , 299-314.		0
78	Dynamic Equilibration. , 2019, , 315-355.		0
79	The Geodynamo: Instabilities and Bifurcations. , 2019, , 356-395.		0
80	Astrophysical dynamic models. , 2019, , 396-416.		0
81	Helical Turbulence. , 2019, , 417-440.		0
82	Magnetic Relaxation under Topological Constraints. , 2019, , 441-462.		0
83	Magnetic Relaxation in a Low-Î² Plasma. , 2019, , 463-481.		0
84	Inertial wave activity during spin-down in a rapidly rotating penny shaped cylinder. Journal of Fluid Mechanics, 2021, 915, .	3.4	0
85	Cowling, Thomas George. , 2014, , 476-478.		0
86	The vortex method for 2D ideal flows in the exterior of a disk. JournÃ©es Ã‰quations Aux DÃ©rivÃ©es Partielles, 2014, , 1-22.	0.2	0
87	Gilbert, William. , 2014, , 807-808.		0
88	La dynamo terrestre, un dÃ©fi centenaire. Pourlascience Fr, 2019, NÂ° 505 - novembre, 40-49.	0.0	0
89	Des cyclones plus destructeursÂ?. Pourlascience Fr, 2020, NÂ° 518 - dÃ©cembre, 60-69.	0.0	0
90	Weak branch and multimodal convection in rapidly rotating spheres at low Prandtl number. Physical Review Fluids, 2021, 6, .	2.5	0

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91	Barlow, Peter (1776â€“1862). , 2007, , 40-41.		0