Thomas Gastine

List of Publications by Year
in descending order

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54
papers

2,824
citations

172457
29
h-index

189892
50
g-index

55
all docs

55
docs citations

55
times ranked

1578
citing authors

#	Article	IF	Citations
1	Large-scale magnetic topologies of mid M dwarfs^{â˜…}. Monthly Notices of the Royal Astronomical Society, 2008, 390, 567-581.	4.4	351
2	Large-scale magnetic topologies of early M dwarfs^{â˜…}. Monthly Notices of the Royal Astronomical Society, 2008, 390, 545-560.	4.4	242
3	A BCool magnetic snapshot survey of solar-type stars. Monthly Notices of the Royal Astronomical Society, 2014, 444, 3517-3536.	4.4	148
4	Anelastic convection-driven dynamo benchmarks. Icarus, 2011, 216, 120-135.	2.5	146
5	From solar-like to antisolar differential rotation in cool stars. Monthly Notices of the Royal Astronomical Society: Letters, 2013, 438, L76-L80.	3.3	139
6	Spherical convective dynamos in the rapidly rotating asymptotic regime. Journal of Fluid Mechanics, 2017, 813, 558-593.	3.4	121
7	Effects of compressibility on driving zonal flow in gas giants. Icarus, 2012, 219, 428-442.	2.5	116
8	EXPLAINING THE COEXISTENCE OF LARGE-SCALE AND SMALL-SCALE MAGNETIC FIELDS IN FULLY CONVECTIVE STARS. Astrophysical Journal Letters, 2015, 813, L31.	8.3	100
9	Simulation of deep-seated zonal jets and shallow vortices in gas giant atmospheres. Nature Geoscience, 2016, 9, 19-23.	12.9	96
10	Scaling regimes in spherical shell rotating convection. Journal of Fluid Mechanics, 2016, 808, 690-732.	3.4	95
11	Dipolar versus multipolar dynamos: the influence of the background density stratification. Astronomy and Astrophysics, 2012, 546, A19.	5.1	92
12	Zonal flow regimes in rotating anelastic spherical shells: An application to giant planets. Icarus, 2013, 225, 156-172.	2.5	91
13	Approaching a realistic force balance in geodynamo simulations. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12065-12070.	7.1	69
14	What controls the magnetic geometry of MÂdwarfs?. Astronomy and Astrophysics, 2013, 549, L5.	5.1	67
15	Performance benchmarks for a next generation numerical dynamo model. Geochemistry, Geophysics, Geosystems, 2016, 17, 1586-1607.	2.5	66
16	Magnetar formation through a convective dynamo in protoneutron stars. Science Advances, 2020, 6, eaay2732.	10.3	65
17	Long-term magnetic field monitoring of the Sun-like star<i>Î¾</i>Bootis A. Astronomy and Astrophysics, 2012, 540, A138.	5.1	64
18	Explaining Jupiter's magnetic field and equatorial jet dynamics. Geophysical Research Letters, 2014, 41, 5410-5419.	4.0	59

#	ARTICLE	IF	CITATIONS
19	Anelastic dynamo models with variable electrical conductivity: An application to gas giants. Physics of the Earth and Planetary Interiors, 2013, 222, 22-34.	1.9	51
20	Zonal flow scaling in rapidly-rotating compressible convection. Physics of the Earth and Planetary Interiors, 2014, 232, 36-50.	1.9	50
21	Turbulent Rayleighâ€“BÃ©nard convection in spherical shells. Journal of Fluid Mechanics, 2015, 778, 721-764.	3.4	50
22	Scaling laws in spherical shell dynamos with free-slip boundaries. Icarus, 2013, 225, 185-193.	2.5	49
23	Formation of starspots in self-consistent global dynamo models: Polar spots on cool stars. Astronomy and Astrophysics, 2015, 573, A68.	5.1	49
24	Force balance in numerical geodynamo simulations: a systematic study. Geophysical Journal International, 2019, 219, S101-S114.	2.4	49
25	Effect of shear and magnetic field on the heat-transfer efficiency of convection in rotating spherical shells. Geophysical Journal International, 2016, 204, 1120-1133.	2.4	41
26	CONSISTENT SCALING LAWS IN ANELASTIC SPHERICAL SHELL DYNAMOS. Astrophysical Journal, 2013, 774, 6.	4.5	40
27	Three-dimensional evolution of magnetic fields in a differentially rotating stellar radiative zone. Astronomy and Astrophysics, 2015, 575, A106.	5.1	35
28	Dynamo-based limit to the extent of a stable layer atop Earthâ€™s core. Geophysical Journal International, 2020, 222, 1433-1448.	2.4	32
29	Helicity inversion in spherical convection as a means for equatorward dynamo wave propagation. Monthly Notices of the Royal Astronomical Society, 2016, 456, 1708-1722.	4.4	31
30	Physical conditions for Jupiter-like dynamo models. Icarus, 2018, 299, 206-221.	2.5	26
31	Stable stratification promotes multiple zonal jets in a turbulent jovian dynamo model. Icarus, 2021, 368, 114514.	2.5	25
32	Dynamo Action in the Steeply Decaying Conductivity Region of Jupiterâ€Like Dynamo Models. Journal of Geophysical Research E: Planets, 2019, 124, 837-863.	3.6	20
33	Dynamo action of the zonal winds in Jupiter. Astronomy and Astrophysics, 2019, 629, A125.	5.1	20
34	Relating force balances and flow length scales in geodynamo simulations. Geophysical Journal International, 2020, 224, 1890-1904.	2.4	19
35	Direct numerical simulations of the $mathsf{kappa}$-mechanism. Astronomy and Astrophysics, 2008, 484, 29-42.	5.1	15
36	Direct numerical simulations of the $mathsf{kappa}$-mechanism. Astronomy and Astrophysics, 2008, 490, 743-752.	5.1	14

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37	Evolution of a magnetic field in a differentially rotating radiative zone. Astronomy and Astrophysics, 2015, 580, A103.	5.1	13
38	Geomagnetic semblance and dipolarâ€“multipolar transition in top-heavy double-diffusive geodynamo models. Geophysical Journal International, 2021, 226, 1897-1919.	2.4	12
39	Convective quenching of stellar pulsations. Astronomy and Astrophysics, 2011, 528, A6.	5.1	11
40	pizza: an open-source pseudo-spectral code for spherical quasi-geostrophic convection. Geophysical Journal International, 2019, 217, 1558-1576.	2.4	9
41	Reversal and amplification of zonal flows by boundary enforced thermal wind. Icarus, 2017, 282, 380-392.	2.5	7
42	Modeling the Interior Dynamics of Gas Planets. Astrophysics and Space Science Library, 2018, , 7-81.	2.7	6
43	Numerical simulations help revealing the dynamics underneath the clouds of Jupiter. Nature Communications, 2020, 11, 2886.	12.8	6
44	A test of time-dependent theories of stellar convection. Astronomy and Astrophysics, 2011, 530, L7.	5.1	5
45	Gravity darkening in late-type stars. Astronomy and Astrophysics, 2018, 609, A124.	5.1	5
46	Comparison of quasi-geostrophic, hybrid and 3-D models of planetary core convection. Geophysical Journal International, 2022, 231, 129-158.	2.4	3
47	Exploring the magnetic topologies of cool stars. Proceedings of the International Astronomical Union, 2010, 6, 181-187.	0.0	1
48	Numerical simulations of the Îº-mechanism with convection. Astrophysics and Space Science, 2010, 328, 245-251.	1.4	1
49	An assessment of implicit-explicit time integrators for the pseudo-spectral approximation of Boussinesq thermal convection in an annulus. Journal of Computational Physics, 2022, , 110965.	3.8	1
50	MagIC v5.10: a two-dimensional message-passing interface (MPI) distribution for pseudo-spectral magnetohydrodynamics simulations in spherical geometry. Geoscientific Model Development, 2021, 14, 7477-7495.	3.6	1
51	Magnetic geometries of Sun-like stars: exploring the mass-rotation plane. Proceedings of the International Astronomical Union, 2008, 4, 441-442.	0.0	0
52	What controls the large-scale magnetic fields of M dwarfs?. Proceedings of the International Astronomical Union, 2013, 9, 166-169.	0.0	0
53	Bridging planets and stars using scaling laws in anelastic spherical shell dynamos. Proceedings of the International Astronomical Union, 2013, 9, 174-175.	0.0	0
54	Numerical simulations of the Îº-mechanism with convection. , 2010, , 243-249.		0