

# 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	An assessment of implicit-explicit time integrators for the pseudo-spectral approximation of Boussinesq thermal convection in an annulus. <i>Journal of Computational Physics</i> , 2022, , 110965.	3.8	1
2	Comparison of quasi-geostrophic, hybrid and 3-D models of planetary core convection. <i>Geophysical Journal International</i> , 2022, 231, 129-158.	2.4	3
3	Geomagnetic semblance and dipolar-to-multipolar transition in top-heavy double-diffusive geodynamo models. <i>Geophysical Journal International</i> , 2021, 226, 1897-1919.	2.4	12
4	Stable stratification promotes multiple zonal jets in a turbulent jovian dynamo model. <i>Icarus</i> , 2021, 368, 114514.	2.5	25
5	MagIC v5.10: a two-dimensional message-passing interface (MPI) distribution for pseudo-spectral magnetohydrodynamics simulations in spherical geometry. <i>Geoscientific Model Development</i> , 2021, 14, 7477-7495.	3.6	1
6	Numerical simulations help revealing the dynamics underneath the clouds of Jupiter. <i>Nature Communications</i> , 2020, 11, 2886.	12.8	6
7	Magnetar formation through a convective dynamo in protoneutron stars. <i>Science Advances</i> , 2020, 6, eaay2732.	10.3	65
8	Dynamo-based limit to the extent of a stable layer atop Earth's core. <i>Geophysical Journal International</i> , 2020, 222, 1433-1448.	2.4	32
9	Relating force balances and flow length scales in geodynamo simulations. <i>Geophysical Journal International</i> , 2020, 224, 1890-1904.	2.4	19
10	Dynamo Action in the Steeply Decaying Conductivity Region of Jupiter-Like Dynamo Models. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 837-863.	3.6	20
11	Force balance in numerical geodynamo simulations: a systematic study. <i>Geophysical Journal International</i> , 2019, 219, S101-S114.	2.4	49
12	pizza: an open-source pseudo-spectral code for spherical quasi-geostrophic convection. <i>Geophysical Journal International</i> , 2019, 217, 1558-1576.	2.4	9
13	Dynamo action of the zonal winds in Jupiter. <i>Astronomy and Astrophysics</i> , 2019, 629, A125.	5.1	20
14	Modeling the Interior Dynamics of Gas Planets. <i>Astrophysics and Space Science Library</i> , 2018, , 7-81.	2.7	6
15	Physical conditions for Jupiter-like dynamo models. <i>Icarus</i> , 2018, 299, 206-221.	2.5	26
16	Gravity darkening in late-type stars. <i>Astronomy and Astrophysics</i> , 2018, 609, A124.	5.1	5
17	Spherical convective dynamos in the rapidly rotating asymptotic regime. <i>Journal of Fluid Mechanics</i> , 2017, 813, 558-593.	3.4	121
18	Reversal and amplification of zonal flows by boundary enforced thermal wind. <i>Icarus</i> , 2017, 282, 380-392.	2.5	7

#	ARTICLE	IF	CITATIONS
19	Scaling regimes in spherical shell rotating convection. <i>Journal of Fluid Mechanics</i> , 2016, 808, 690-732.	3.4	95
20	Approaching a realistic force balance in geodynamo simulations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 12065-12070.	7.1	69
21	Helicity inversion in spherical convection as a means for equatorward dynamo wave propagation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 456, 1708-1722.	4.4	31
22	Performance benchmarks for a next generation numerical dynamo model. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 1586-1607.	2.5	66
23	Effect of shear and magnetic field on the heat-transfer efficiency of convection in rotating spherical shells. <i>Geophysical Journal International</i> , 2016, 204, 1120-1133.	2.4	41
24	Simulation of deep-seated zonal jets and shallow vortices in gas giant atmospheres. <i>Nature Geoscience</i> , 2016, 9, 19-23.	12.9	96
25	Turbulent Rayleigh-Bénard convection in spherical shells. <i>Journal of Fluid Mechanics</i> , 2015, 778, 721-764.	3.4	50
26	Evolution of a magnetic field in a differentially rotating radiative zone. <i>Astronomy and Astrophysics</i> , 2015, 580, A103.	5.1	13
27	Formation of starspots in self-consistent global dynamo models: Polar spots on cool stars. <i>Astronomy and Astrophysics</i> , 2015, 573, A68.	5.1	49
28	EXPLAINING THE COEXISTENCE OF LARGE-SCALE AND SMALL-SCALE MAGNETIC FIELDS IN FULLY CONVECTIVE STARS. <i>Astrophysical Journal Letters</i> , 2015, 813, L31.	8.3	100
29	Three-dimensional evolution of magnetic fields in a differentially rotating stellar radiative zone. <i>Astronomy and Astrophysics</i> , 2015, 575, A106.	5.1	35
30	A BCool magnetic snapshot survey of solar-type stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2014, 444, 3517-3536.	4.4	148
31	Explaining Jupiter's magnetic field and equatorial jet dynamics. <i>Geophysical Research Letters</i> , 2014, 41, 5410-5419.	4.0	59
32	Zonal flow scaling in rapidly-rotating compressible convection. <i>Physics of the Earth and Planetary Interiors</i> , 2014, 232, 36-50.	1.9	50
33	Scaling laws in spherical shell dynamos with free-slip boundaries. <i>Icarus</i> , 2013, 225, 185-193.	2.5	49
34	Anelastic dynamo models with variable electrical conductivity: An application to gas giants. <i>Physics of the Earth and Planetary Interiors</i> , 2013, 222, 22-34.	1.9	51
35	Zonal flow regimes in rotating anelastic spherical shells: An application to giant planets. <i>Icarus</i> , 2013, 225, 156-172.	2.5	91
36	CONSISTENT SCALING LAWS IN ANELASTIC SPHERICAL SHELL DYNAMOS. <i>Astrophysical Journal</i> , 2013, 774, 6.	4.5	40

#	ARTICLE	IF	CITATIONS
37	What controls the large-scale magnetic fields of M dwarfs?. Proceedings of the International Astronomical Union, 2013, 9, 166-169.	0.0	0
38	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
39	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
40	What controls the magnetic geometry of M dwarfs?. Astronomy and Astrophysics, 2013, 549, L5.	5.1	67
41	Long-term magnetic field monitoring of the Sun-like star $\kappa$ Bootis A. Astronomy and Astrophysics, 2012, 540, A138.	5.1	64
42	Dipolar versus multipolar dynamos: the influence of the background density stratification. Astronomy and Astrophysics, 2012, 546, A19.	5.1	92
43	Effects of compressibility on driving zonal flow in gas giants. Icarus, 2012, 219, 428-442.	2.5	116
44	Convective quenching of stellar pulsations. Astronomy and Astrophysics, 2011, 528, A6.	5.1	11
45	A test of time-dependent theories of stellar convection. Astronomy and Astrophysics, 2011, 530, L7.	5.1	5
46	Anelastic convection-driven dynamo benchmarks. Icarus, 2011, 216, 120-135.	2.5	146
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 $\hat{\rho}$ -mechanism with convection. Astrophysics and Space Science, 2010, 328, 245-251.	1.4	1
49	Numerical simulations of the $\hat{\rho}$ -mechanism with convection. , 2010, , 243-249.		0
50	Large-scale magnetic topologies of early M dwarfs $\hat{\rho}$ ... <sup>...</sup> . Monthly Notices of the Royal Astronomical Society, 2008, 390, 545-560.	4.4	242
51	Large-scale magnetic topologies of mid M dwarfs $\hat{\rho}$ ... <sup>...</sup> . Monthly Notices of the Royal Astronomical Society, 2008, 390, 567-581.	4.4	351
52	Magnetic geometries of Sun-like stars: exploring the mass-rotation plane. Proceedings of the International Astronomical Union, 2008, 4, 441-442.	0.0	0
53	Direct numerical simulations of the $\kappa$ -mechanism. Astronomy and Astrophysics, 2008, 484, 29-42.	5.1	15
54	Direct numerical simulations of the $\kappa$ -mechanism. Astronomy and Astrophysics, 2008, 490, 743-752.	5.1	14