

# Michael Le Bars

## List of Publications by Year in descending order

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95  
papers

2,541  
citations

159585

30  
h-index

214800

47  
g-index

100  
all docs

100  
docs citations

100  
times ranked

1593  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fluid Dynamics Experiments for Planetary Interiors. <i>Surveys in Geophysics</i> , 2022, 43, 229-261.	4.6	13
2	Zonal jets at the laboratory scale: hysteresis and Rossby waves resonance. <i>Journal of Fluid Mechanics</i> , 2021, 910, .	3.4	10
3	Internal gravity waves in a stratified layer atop a convecting liquid core in a non-rotating spherical shell. <i>Geophysical Journal International</i> , 2021, 228, 337-354.	2.4	4
4	Plumes in rotating fluid and their transformation into tornados. <i>Journal of Fluid Mechanics</i> , 2021, 924, .	3.4	5
5	Large-scale flow driven by turbulently generated internal gravity waves. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	0
6	Numerical study of the McIntyre instability around Gaussian floating vortices in thermal wind balance. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	3
7	Surface manifestation of stochastically excited internal gravity waves. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 508, 132-143.	4.4	8
8	Hysteresis and instabilities in a spheroid in precession near the resonance with the tilt-over mode. <i>Journal of Fluid Mechanics</i> , 2021, 909, .	3.4	9
9	La Grande Tache rouge de Jupiter en laboratoire! <i>Pour la science Fr</i> , 2021, N° 519 - janvier, 24-33.	0.0	0
10	Rotational Dynamics of Planetary Cores: Instabilities Driven By Precession, Libration and Tides. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2020, , 91-127.	0.6	2
11	Near-resonant instability of geostrophic modes: beyond Greenspan's theorem. <i>Journal of Fluid Mechanics</i> , 2020, 900, .	3.4	16
12	Multimodal Excitation to Model the Quasi-biennial Oscillation. <i>Physical Review Letters</i> , 2020, 125, 234501.	7.8	1
13	Remote determination of the shape of Jupiter's vortices from laboratory experiments. <i>Nature Physics</i> , 2020, 16, 695-700.	16.7	14
14	Dynamics of core-mantle separation: Influence of viscosity contrast and metal/silicate partition coefficients on the chemical equilibrium. <i>Physics of the Earth and Planetary Interiors</i> , 2020, 306, 106547.	1.9	4
15	Coupled convection and internal gravity waves excited in water around its density maximum at 4°C. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	12
16	Shape and size of large-scale vortices: A generic fluid pattern in geophysical fluid dynamics. <i>Physical Review Research</i> , 2020, 2, .	3.6	5
17	Evidence of the Zakharov-Kolmogorov spectrum in numerical simulations of inertial wave turbulence. <i>Europhysics Letters</i> , 2020, 132, 64002.	2.0	9
18	Thermal evolution of a metal drop falling in a less dense, more viscous fluid. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	1

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19	Fluid dynamics of a mixed convective/stably stratified system – A review of some recent works. <i>Comptes Rendus Physique</i> , 2020, 21, 151-164.	0.9	2
20	Gas giant – like zonal jets in the laboratory. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	0
21	Dynamics of a reactive spherical particle falling in a linearly stratified fluid. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	1
22	Zombie vortex instability in the protoplanetary disk: can we find it in the lab?. <i>EAS Publications Series</i> , 2019, 82, 435-444.	0.3	0
23	The turbulent response to tidal and libration forcing. <i>EAS Publications Series</i> , 2019, 82, 51-58.	0.3	0
24	Experimental study of the nonlinear saturation of the elliptical instability: inertial wave turbulence versus geostrophic turbulence. <i>Journal of Fluid Mechanics</i> , 2019, 879, 296-326.	3.4	29
25	Dynamics and stability of an iron drop falling in a magma ocean. <i>Physics of the Earth and Planetary Interiors</i> , 2019, 289, 75-89.	1.9	9
26	Low-frequency Variability in Massive Stars: Core Generation or Surface Phenomenon?. <i>Astrophysical Journal Letters</i> , 2019, 886, L15.	8.3	39
27	Un cycle n – du chaos. <i>Pour la science Fr</i> , 2019, N – 497 - mars, 26-33.	0.0	0
28	Parametric instability and wave turbulence driven by tidal excitation of internal waves. <i>Journal of Fluid Mechanics</i> , 2018, 840, 498-529.	3.4	15
29	Turbulent Kinematic Dynamos in Ellipsoids Driven by Mechanical Forcing. <i>Geophysical Research Letters</i> , 2018, 45, 1741-1750.	4.0	18
30	Erosion of a sharp density interface by a turbulent jet at moderate Froude and Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 2018, 838, 631-657.	3.4	8
31	Experiments on fragmentation and thermo-chemical exchanges during planetary core formation. <i>Physics of the Earth and Planetary Interiors</i> , 2018, 276, 134-144.	1.9	10
32	The energy flux spectrum of internal waves generated by turbulent convection. <i>Journal of Fluid Mechanics</i> , 2018, 854, .	3.4	30
33	Some statistical properties of three-dimensional zonostrophic turbulence. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2018, 112, 207-221.	1.2	3
34	The linear instability of the stratified plane Couette flow. <i>Journal of Fluid Mechanics</i> , 2018, 853, 205-234.	3.4	22
35	Order Out of Chaos: Slowly Reversing Mean Flows Emerge from Turbulently Generated Internal Waves. <i>Physical Review Letters</i> , 2018, 120, 244505.	7.8	25
36	Geometrical focusing of surface waves. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	4

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37	A laboratory model for deep-seated jets on the gas giants. <i>Nature Physics</i> , 2017, 13, 387-390.	16.7	34
38	Mass transport induced by a jet impinging on a density interface: The role of interfacial wave breaking. <i>Europhysics Letters</i> , 2017, 117, 64003.	2.0	0
39	Libration-driven flows in ellipsoidal shells. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1926-1950.	3.6	44
40	Inertial Wave Turbulence Driven by Elliptical Instability. <i>Physical Review Letters</i> , 2017, 119, 034502.	7.8	48
41	Internal shear layers from librating objects. <i>Journal of Fluid Mechanics</i> , 2017, 826, 653-675.	3.4	12
42	A laboratory study of floating lenticular anticyclones. <i>European Journal of Mechanics, B/Fluids</i> , 2017, 61, 1-8.	2.5	4
43	Fall and fragmentation of liquid metal in a viscous fluid. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	1
44	Dynamics of mixed convective-stably-stratified fluids. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	26
45	On the lifetime of a pancake anticyclone in a rotating stratified flow. <i>Journal of Fluid Mechanics</i> , 2016, 804, 688-711.	3.4	5
46	The deep Earth may not be cooling down. <i>Earth and Planetary Science Letters</i> , 2016, 443, 195-203.	4.4	54
47	Flows driven by libration, precession, and tides in planetary cores. <i>Physical Review Fluids</i> , 2016, 1, .	2.5	10
48	Numerical simulations of internal wave generation by convection in water. <i>Physical Review E</i> , 2015, 91, 063016.	2.1	40
49	Generation and maintenance of bulk turbulence by libration-driven elliptical instability. <i>Physics of Fluids</i> , 2015, 27, .	4.0	32
50	Velocity and temperature measurements in a turbulent water-filled Taylor-Couette-Poiseuille system. <i>International Journal of Thermal Sciences</i> , 2015, 90, 238-247.	4.9	11
51	Experimental study of internal wave generation by convection in water. <i>Fluid Dynamics Research</i> , 2015, 47, 045502.	1.3	14
52	Flows Driven by Libration, Precession, and Tides. <i>Annual Review of Fluid Mechanics</i> , 2015, 47, 163-193.	25.0	142
53	Experimental study of global-scale turbulence in a librating ellipsoid. <i>Physics of Fluids</i> , 2014, 26, .	4.0	22
54	Finite-size effects in parametric subharmonic instability. <i>Journal of Fluid Mechanics</i> , 2014, 759, 739-750.	3.4	35

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55	Laboratory experiments on the breakup of liquid metal diapirs. <i>Earth and Planetary Science Letters</i> , 2014, 403, 236-245.	4.4	27
56	Tide-driven shear instability in planetary liquid cores. <i>Geophysical Research Letters</i> , 2014, 41, 6078-6083.	4.0	25
57	Flows Driven by Harmonic Forcing in Planetary Atmospheres and Cores. <i>Environmental Science and Engineering</i> , 2014, , 83-91.	0.2	0
58	Focusing of Surface Waves. <i>Environmental Science and Engineering</i> , 2014, , 315-325.	0.2	1
59	Elliptical instability in hot Jupiter systems. <i>Icarus</i> , 2013, 226, 1642-1653.	2.5	59
60	Spontaneous generation of inertial waves from boundary turbulence in a librating sphere. <i>Journal of Fluid Mechanics</i> , 2013, 728, .	3.4	22
61	Vortices in rotating and stratified flows: aspect ratio and sustainability. <i>EPJ Web of Conferences</i> , 2013, 46, 05004.	0.3	0
62	Libration driven elliptical instability. <i>Physics of Fluids</i> , 2012, 24, .	4.0	32
63	Elliptical instability in terrestrial planets and moons. <i>Astronomy and Astrophysics</i> , 2012, 539, A78.	5.1	44
64	The universal aspect ratio of vortices in rotating stratified flows: experiments and observations. <i>Journal of Fluid Mechanics</i> , 2012, 706, 34-45.	3.4	35
65	Experimental study of libration-driven zonal flows in non-axisymmetric containers. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 204-205, 1-10.	1.9	28
66	Magnetohydrodynamic simulations of the elliptical instability in triaxial ellipsoids. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2012, 106, 524-546.	1.2	18
67	Fluid flows in a librating cylinder. <i>Physics of Fluids</i> , 2012, 24, .	4.0	39
68	An impact-driven dynamo for the early Moon. <i>Nature</i> , 2011, 479, 215-218.	27.8	144
69	Tidal instability in exoplanetary systems evolution. <i>EPJ Web of Conferences</i> , 2011, 11, 03003.	0.3	9
70	Tidal instability in exoplanetary systems evolution. <i>EPJ Web of Conferences</i> , 2011, 11, 03003.	0.3	2
71	Elliptic instability of a stratified fluid in a rotating cylinder. <i>Journal of Fluid Mechanics</i> , 2010, 660, 240-257.	3.4	20
72	Experimental and numerical study of mean zonal flows generated by librations of a rotating spherical cavity. <i>Journal of Fluid Mechanics</i> , 2010, 662, 260-268.	3.4	55

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73	Tidal instability in a rotating and differentially heated ellipsoidal shell. <i>Geophysical Journal International</i> , 2010, 182, 1311-1318.	2.4	40
74	Experimental Determination of Zonal Winds Driven by Tides. <i>Physical Review Letters</i> , 2010, 104, 214501.	7.8	57
75	Experimental study of the interaction between convective and elliptical instabilities. <i>Physics of Fluids</i> , 2010, 22, .	4.0	21
76	Tilt-over mode in a precessing triaxial ellipsoid. <i>Physics of Fluids</i> , 2010, 22, .	4.0	25
77	Tidal instability in stellar and planetary binary systems. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 178, 48-55.	1.9	57
78	A systematic numerical study of the tidal instability in a rotating triaxial ellipsoid. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 182, 119-128.	1.9	59
79	Sedimentation of particles in a vigorously convecting fluid. <i>Physical Review E</i> , 2009, 80, 046324.	2.1	29
80	On the effects of an imposed magnetic field on the elliptical instability in rotating spheroids. <i>Physics of Fluids</i> , 2009, 21, 046602.	4.0	25
81	Law of spreading of the crest of a breaking wave. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2008, 464, 1851-1866.	2.1	7
82	Experimental evidence of the Strato-rotational instability. <i>Journal of Physics: Conference Series</i> , 2008, 137, 012013.	0.4	0
83	Experimental Analysis of the Stratorotational Instability in a Cylindrical Couette Flow. <i>Physical Review Letters</i> , 2007, 99, 064502.	7.8	49
84	Coriolis effects on the elliptical instability in cylindrical and spherical rotating containers. <i>Journal of Fluid Mechanics</i> , 2007, 585, 323-342.	3.4	34
85	Thermo-elliptical instability in a rotating cylindrical shell. <i>Journal of Fluid Mechanics</i> , 2006, 563, 189.	3.4	24
86	Interfacial conditions between a pure fluid and a porous medium: implications for binary alloy solidification. <i>Journal of Fluid Mechanics</i> , 2006, 550, 149.	3.4	265
87	Solidification of a binary alloy: Finite-element, single-domain simulation and new benchmark solutions. <i>Journal of Computational Physics</i> , 2006, 216, 247-263.	3.8	32
88	Magnetic field induced by elliptical instability in a rotating spheroid. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2006, 100, 299-317.	1.2	35
89	Whole layer convection in a heterogeneous planetary mantle. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	59
90	Large interface deformation in two-layer thermal convection of miscible viscous fluids. <i>Journal of Fluid Mechanics</i> , 2004, 499, 75-110.	3.4	35

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91	Thermal convection in a heterogeneous mantle. <i>Comptes Rendus - Geoscience</i> , 2003, 335, 141-156.	1.2	60
92	Stability of thermal convection in two superimposed miscible viscous fluids. <i>Journal of Fluid Mechanics</i> , 2002, 471, 339-363.	3.4	52
93	How to anchor hotspots in a convecting mantle?. <i>Earth and Planetary Science Letters</i> , 2002, 203, 621-634.	4.4	140
94	Étude de l'atténuation, en fonction de la distance, du flux thermique produit par une source ponctuelle monoénergétique de neutrons rapides, en milieu hydrogène application au calcul de l'efficacité d'un compteur de neutrons. <i>Revue De Physique Appliquée</i> , 1968, 3, 53-58.	0.4	0
95	Tidally-forced turbulence in planetary interiors. <i>Geophysical Journal International</i> , 0, , ggw479.	2.4	6