

# Francisco Marques

## List of Publications by Year in descending order

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88  
papers

1,916  
citations

201385

27  
h-index

315357

38  
g-index

92  
all docs

92  
docs citations

92  
times ranked

835  
citing authors

#	ARTICLE	IF	CITATIONS
1	Symmetry breaking of two-dimensional time-periodic wakes. <i>Journal of Fluid Mechanics</i> , 2005, 522, 395-411.	1.4	95
2	Precessing vortex breakdown mode in an enclosed cylinder flow. <i>Physics of Fluids</i> , 2001, 13, 1679-1682.	1.6	58
3	An Efficient Spectral-Projection Method for the Navier–Stokes Equations in Cylindrical Geometries. <i>Journal of Computational Physics</i> , 2002, 176, 384-401.	1.9	58
4	Symmetry breaking in free-surface cylinder flows. <i>Journal of Fluid Mechanics</i> , 2004, 502, 99-126.	1.4	58
5	Taylor–Couette flow with axial oscillations of the inner cylinder: Floquet analysis of the basic flow. <i>Journal of Fluid Mechanics</i> , 1997, 348, 153-175.	1.4	52
6	Instability and mode interactions in a differentially driven rotating cylinder. <i>Journal of Fluid Mechanics</i> , 2002, 462, 383-409.	1.4	51
7	Mode interactions in an enclosed swirling flow: a double Hopf bifurcation between azimuthal wavenumbers 0 and 2. <i>Journal of Fluid Mechanics</i> , 2002, 455, 263-281.	1.4	49
8	The Boussinesq approximation in rapidly rotating flows. <i>Journal of Fluid Mechanics</i> , 2013, 737, 56-77.	1.4	47
9	Dynamics of Three-Tori in a Periodically Forced Navier-Stokes Flow. <i>Physical Review Letters</i> , 2000, 85, 972-975.	2.9	46
10	On the competition between centrifugal and shear instability in spiral Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2002, 455, 129-148.	1.4	46
11	Bifurcations in systems with $Z_2$ spatio-temporal and $O(2)$ spatial symmetry. <i>Physica D: Nonlinear Phenomena</i> , 2004, 189, 247-276.	1.3	46
12	On boundary conditions for velocity potentials in confined flows: Application to Couette flow. <i>Physics of Fluids A, Fluid Dynamics</i> , 1990, 2, 729-737.	1.6	44
13	Centrifugal effects in rotating convection: axisymmetric states and three-dimensional instabilities. <i>Journal of Fluid Mechanics</i> , 2007, 580, 303-318.	1.4	44
14	A Continuation and Bifurcation Technique for Navier–Stokes Flows. <i>Journal of Computational Physics</i> , 2002, 180, 78-98.	1.9	43
15	Oscillatory modes in an enclosed swirling flow. <i>Journal of Fluid Mechanics</i> , 2001, 439, 109-129.	1.4	40
16	Crossflow instability of finite Bårdewadt flows: Transients and spiral waves. <i>Physics of Fluids</i> , 2009, 21, .	1.6	39
17	Centrifugal effects in rotating convection: nonlinear dynamics. <i>Journal of Fluid Mechanics</i> , 2009, 628, 269-297.	1.4	37
18	Conductive and convective heat transfer in fluid flows between differentially heated and rotating cylinders. <i>International Journal of Heat and Mass Transfer</i> , 2015, 90, 959-967.	2.5	37

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19	Instability mechanisms and transition scenarios of spiral turbulence in Taylor-Couette flow. <i>Physical Review E</i> , 2009, 80, 046315.	0.8	35
20	Instability of plumes driven by localized heating. <i>Journal of Fluid Mechanics</i> , 2013, 736, 616-640.	1.4	35
21	Global endwall effects on centrifugally stable flows. <i>Physics of Fluids</i> , 2008, 20, .	1.6	33
22	On the competition between centrifugal and shear instability in spiral Couette flow. <i>Journal of Fluid Mechanics</i> , 2000, 402, 33-56.	1.4	32
23	Onset of three-dimensional unsteady states in small-aspect-ratio Taylor-Couette flow. <i>Journal of Fluid Mechanics</i> , 2006, 561, 255.	1.4	32
24	Bursting dynamics due to a homoclinic cascade in Taylor-Couette flow. <i>Journal of Fluid Mechanics</i> , 2008, 613, 357-384.	1.4	31
25	Onset of convection in a moderate aspect-ratio rotating cylinder: Eckhaus-Benjamin-Feir instability. <i>Journal of Fluid Mechanics</i> , 2007, 590, 187-208.	1.4	29
26	Spatial and temporal resonances in a periodically forced hydrodynamic system. <i>Physica D: Nonlinear Phenomena</i> , 2000, 136, 340-352.	1.3	28
27	Symmetry Breaking Via Global Bifurcations of Modulated Rotating Waves in Hydrodynamics. <i>Physical Review Letters</i> , 2005, 94, 074501.	2.9	28
28	Mode competition of rotating waves in reflection-symmetric Taylor-Couette flow. <i>Journal of Fluid Mechanics</i> , 2005, 540, 269.	1.4	27
29	Thermal convection in vertical cylinders. A method based on potentials of velocity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1993, 110, 157-169.	3.4	26
30	Precession of a rapidly rotating cylinder flow: traverse through resonance. <i>Journal of Fluid Mechanics</i> , 2015, 782, 63-98.	1.4	26
31	Instabilities and inertial waves generated in a librating cylinder. <i>Journal of Fluid Mechanics</i> , 2011, 687, 171-193.	1.4	25
32	Rapidly rotating precessing cylinder flows: forced triadic resonances. <i>Journal of Fluid Mechanics</i> , 2018, 839, 239-270.	1.4	24
33	Mode competition between rotating waves in a swirling flow with reflection symmetry. <i>Journal of Fluid Mechanics</i> , 2004, 507, 265-288.	1.4	23
34	Stability control and catastrophic transition in a forced Taylor-Couette system. <i>Journal of Fluid Mechanics</i> , 2007, 590, 471-496.	1.4	23
35	A periodically forced flow displaying symmetry breaking via a three-tori gluing bifurcation and two-tori resonances. <i>Physica D: Nonlinear Phenomena</i> , 2001, 156, 81-97.	1.3	22
36	Tangent double Hopf bifurcation in a differentially rotating cylinder flow. <i>Physical Review E</i> , 2003, 68, 016310.	0.8	22

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37	Travelling circular waves in axisymmetric rotating convection. <i>Journal of Fluid Mechanics</i> , 2006, 569, 331.	1.4	22
38	Solenoidal spectral formulations for the computation of secondary flows in cylindrical and annular geometries. <i>European Physical Journal: Special Topics</i> , 2007, 146, 249-259.	1.2	22
39	Non-linear spirals in the Taylor-Couette problem. <i>Physics of Fluids</i> , 1998, 10, 829-838.	1.6	21
40	Sidewall boundary layer instabilities in a rapidly rotating cylinder driven by a differentially corotating lid. <i>Physics of Fluids</i> , 2010, 22, .	1.6	21
41	Small aspect ratio Taylor-Couette flow: Onset of a very-low-frequency three-torus state. <i>Physical Review E</i> , 2003, 68, 036302.	0.8	19
42	Mode competition in modulated Taylor-Couette flow. <i>Journal of Fluid Mechanics</i> , 2008, 601, 381-406.	1.4	19
43	Modulated Taylor-Couette Flow: Onset of Spiral Modes. <i>Theoretical and Computational Fluid Dynamics</i> , 2002, 16, 59-69.	0.9	18
44	Double Hopf bifurcation in corotating spiral Poiseuille flow. <i>Physics of Fluids</i> , 2006, 18, 064101.	1.6	18
45	Symmetry-breaking Hopf bifurcations to 1-, 2-, and 3-tori in small-aspect-ratio counterrotating Taylor-Couette flow. <i>Physical Review E</i> , 2012, 86, 046316.	0.8	18
46	Complex dynamics in a short annular container with rotating bottom and inner cylinder. <i>Journal of Fluid Mechanics</i> , 2004, 501, 327-354.	1.4	17
47	Quenching of vortex breakdown oscillations via harmonic modulation. <i>Journal of Fluid Mechanics</i> , 2008, 599, 441-464.	1.4	17
48	Optimal harmonic response in a confined Bédewadt boundary layer flow. <i>Physical Review E</i> , 2010, 82, 036301.	0.8	17
49	Onset of Lortz-like dynamics in finite rotating thermal convection. <i>Journal of Fluid Mechanics</i> , 2010, 644, 337-357.	1.4	16
50	Finite aspect ratio Taylor-Couette flow: Shilnikov dynamics of 2-tori. <i>Physica D: Nonlinear Phenomena</i> , 2005, 211, 168-191.	1.3	15
51	Rapidly rotating cylinder flow with an oscillating sidewall. <i>Physical Review E</i> , 2014, 89, 013013.	0.8	15
52	Generalized Couette-Poiseuille flow with boundary mass transfer. <i>Journal of Fluid Mechanics</i> , 1998, 374, 221-249.	1.4	14
53	Modulated rotating convection: radially travelling concentric rolls. <i>Journal of Fluid Mechanics</i> , 2008, 608, 357-378.	1.4	14
54	Families of subcritical spirals in highly counter-rotating Taylor-Couette flow. <i>Physical Review E</i> , 2009, 79, 036309.	0.8	14

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55	Pinning of rotating waves to defects in finite Taylor-Couette flow. Journal of Fluid Mechanics, 2011, 666, 254-272.	1.4	14
56	Classical predictive electrodynamics of two charges with radiation: Energy and angular momentum balance and scattering cross sections. II. Journal of Mathematical Physics, 1979, 20, 1316-1320.	0.5	13
57	Interacting oscillatory boundary layers and wall modes in modulated rotating convection. Journal of Fluid Mechanics, 2009, 625, 75-96.	1.4	13
58	Confined rotating convection with large Prandtl number: Centrifugal effects on wall modes. Physical Review E, 2014, 89, 013019.	0.8	13
59	Nonlinear and detuning effects of the nutation angle in precessionally forced rotating cylinder flow. Physical Review Fluids, 2016, 1, .	1.0	13
60	Influence of wall modes on the onset of bulk convection in a rotating cylinder. Physics of Fluids, 2008, 20, .	1.6	12
61	Bifurcations with imperfect $SO(2)$ symmetry and pinning of rotating waves. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120348.	1.0	11
62	Imperfect gluing bifurcation in a temporal glide-reflection symmetric Taylor-Couette flow. Physics of Fluids, 2002, 14, L33-L36.	1.6	10
63	Three-dimensional modes in a periodically driven elongated cavity. Physical Review E, 2005, 71, 026305.	0.8	10
64	Spontaneous generation of a swirling plume in a stratified ambient. Journal of Fluid Mechanics, 2014, 761, 443-463.	1.4	9
65	Impact of centrifugal buoyancy on strato-rotational instability. Journal of Fluid Mechanics, 2020, 890, .	1.4	9
66	Comparison of several approaches to the relativistic dynamics of directly interacting particles. Annals of Physics, 1983, 150, 114-149.	1.0	8
67	On the stability of medium gap corotating spiral Poiseuille flow. Physics of Fluids, 2005, 17, 094104.	1.6	8
68	Harmonically forced enclosed swirling flow. Physics of Fluids, 2009, 21, .	1.6	8
69	Transitions to three-dimensional flows in a cylinder driven by oscillations of the sidewall. Journal of Fluid Mechanics, 2011, 681, 515-536.	1.4	7
70	Three-dimensional instabilities in a discretely heated annular flow: Onset of spatio-temporal complexity via defect dynamics. Physics of Fluids, 2014, 26, 064102.	1.6	7
71	Endwall effects in a periodically forced centrifugally unstable flow. Fluid Dynamics Research, 2000, 27, 91-108.	0.6	6
72	Fold-pitchfork bifurcation for maps with $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \text{display="inline"} \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle Z \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:math} \rangle \text{symmetry}$ in pipe flow. Physical Review E, 2013, 88, 013006.	0.8	6

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73	Flows between orthogonally stretching parallel plates. <i>Physics of Fluids</i> , 2021, 33, 024103.	1.6	5
74	World-line condition and the noninteraction theorem. <i>Physical Review D</i> , 1985, 31, 314-318.	1.6	4
75	Dynamics of axially localized states in Taylor-Couette flows. <i>Physical Review E</i> , 2015, 91, 053011.	0.8	3
76	Extensional channel flow revisited: a dynamical systems perspective. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017, 473, 20170151.	1.0	3
77	Stratified Taylor-Couette flow: nonlinear dynamics. <i>Journal of Fluid Mechanics</i> , 2022, 930, .	1.4	3
78	Realization of Poincaré group induced by a second-order ordinary differential system. Noninteraction theorem. <i>Journal of Mathematical Physics</i> , 1986, 27, 519-523.	0.5	2
79	Determining the self-rotation number following a Naimark-Sacker bifurcation in the periodically forced Taylor-Couette flow. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2000, 51, 61-74.	0.7	2
80	Inertial waves in rapidly rotating flows: a dynamical systems perspective. <i>Physica Scripta</i> , 2016, 91, 124001.	1.2	2
81	Extensional and torsional pipe flow. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	2
82	The problem of physical coordinates in predictive Hamiltonian systems. <i>Journal of Mathematical Physics</i> , 1983, 24, 1665-1671.	0.5	1
83	Bicritical instabilities in pressure driven helicoidal flows. <i>Journal of Physics: Conference Series</i> , 2005, 14, 228-235.	0.3	1
84	Mode competition in cylindrical flows driven by sidewall oscillations. <i>Physical Review E</i> , 2013, 87, 043001.	0.8	1
85	FEIGENBAUM'S UNIVERSALITY IN A LOW-DIMENSIONAL FLUID MODEL. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1996, 06, 1587-1594.	0.7	0
86	From global to local bifurcations in a forced Taylor-Couette flow. <i>Theoretical and Computational Fluid Dynamics</i> , 2004, 18, 115-128.	0.9	0
87	Introductory remarks from the Editors. <i>Fluid Dynamics Research</i> , 2012, 44, 031001.	0.6	0
88	Spiral Vortices Between Concentric Cylinders. <i>Fluid Mechanics and Its Applications</i> , 1993, , 55-59.	0.1	0