Jean-Luc Thiffeault

List of Publications by Year
in descending order

84	2,054	218381	264894
papers	citations	26 h-index	42 g-index

87	87	87	1133
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Reaching for the surface: Spheroidal microswimmers in surface gravity waves. Physical Review Fluids, 2022, 7, .	1.0	6
2	Moving Forward by Shaking Sideways. Symmetry, 2022, 14, 620.	1.1	2
3	Open-flow mixing and transfer operators. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210028.	1.6	2
4	Editorial: Mathematical problems in physical fluid dynamics: part I. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210056.	1.6	0
5	Editorial: Mathematical problems in physical fluid dynamics: part II. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210057.	1.6	0
6	Braids in the heart: global measures of mixing for cardiovascular flows. Flow, 2022, 2, .	1.0	2
7	The mathematics of burger flipping. Physica D: Nonlinear Phenomena, 2022, 439, 133410.	1.3	5
8	Anisotropic active Brownian particle with a fluctuating propulsion force. Physical Review E, 2022, 106, .	0.8	1
9	Shape matters: a Brownian microswimmer in a channel. Journal of Fluid Mechanics, 2021, 916, .	1.4	14
10	On mix-norms and the rate of decay of correlations. Nonlinearity, 2021, 34, 3762-3782.	0.6	5
11	Nonuniform mixing. Physical Review Fluids, 2021, 6, .	1.0	5
12	Phase Separation in the Advective Cahnâ€“Hilliard Equation. Journal of Nonlinear Science, 2020, 30, 2821-2845.	1.0	10
13	Using braids to quantify interface growth and coherence in a rotor-oscillator flow. Physical Review Fluids, 2020, 5, .	1.0	6
14	Winding of a Brownian particle around a point vortex. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180347.	1.6	4
15	Lyapunov Exponents for the Random Product of Two Shears. Journal of Nonlinear Science, 2019, 29, 593-620.	1.0	7
16	Unravelling hagfish slime. Journal of the Royal Society Interface, 2019, 16, 20180710.	1.5	7
17	Velocity fluctuations in a dilute suspension of viscous vortex rings. Physical Review Fluids, 2019, 4, .	1.0	1
18	Optimal Heat Transfer and Optimal Exit Times. SIAM Journal on Applied Mathematics, 2018, 78, 591-608.	0.8	8

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19	The Mathematics of Taffy Pullers. Mathematical Intelligencer, 2018, 40, 26-35.	0.1	11
20	Frontiers of chaotic advection. Reviews of Modern Physics, 2017, 89, .	16.4	146
21	Microorganism billiards. Physica D: Nonlinear Phenomena, 2017, 341, 33-44.	1.3	15
22	Fluid transport and mixing by an unsteady microswimmer. Physical Review Fluids, 2017, 2, .	1.0	16
23	Can phoretic particles swim in two dimensions?. Physical Review E, 2016, 94, 062606.	0.8	15
24	Distribution of particle displacements due to swimming microorganisms. Physical Review E, 2015, 92, 023023.	0.8	53
25	Finite-time braiding exponents. Chaos, 2015, 25, 087407.	1.0	29
26	Topological Entropy and Secondary Folding. Journal of Nonlinear Science, 2013, 23, 511-524.	1.0	4
27	Estimating Topological Entropy from the Motion of Stirring Rods. Procedia IUTAM, 2013, 7, 117-126.	1.2	6
28	Using multiscale norms to quantify mixing and transport. Nonlinearity, 2012, 25, R1-R44.	0.6	102
29	Trajectory entanglement in dense granular materials. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P06008.	0.9	8
30	Detecting coherent structures using braids. Physica D: Nonlinear Phenomena, 2012, 241, 95-105.	1.3	75
31	A Low-Reynolds-Number Treadmilling Swimmer Near a Semi-infinite Wall. The IMA Volumes in Mathematics and Its Applications, 2012, , 197-206.	0.5	3
32	Moving walls accelerate mixing. Physical Review E, 2011, 84, 036313.	0.8	23
33	Topological Optimization of Rod-Stirring Devices. SIAM Review, 2011, 53, 723-743.	4.2	34
34	Stirring by squirmers. Journal of Fluid Mechanics, 2011, 669, 167-177.	1.4	134
35	Optimal stirring strategies for passive scalar mixing. Journal of Fluid Mechanics, 2011, 675, 465-476.	1.4	100
36	A Stokesian viscoelastic flow: Transition to oscillations and mixing. Physica D: Nonlinear Phenomena, 2011, 240, 1602-1614.	1.3	26

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37	Corrigendum to â€œStirring up trouble: Multi-scale mixing measures for steady scalar sourcesâ€•[Physica D 231 (2007) 143â€“164]. Physica D: Nonlinear Phenomena, 2011, 240, 1901-1902.	1.3	1
38	On the minimum dilatation of braids on punctured discs. Geometriae Dedicata, 2011, 152, 165-182.	0.1	11
39	The mixing efficiency of open flows. Physica D: Nonlinear Phenomena, 2011, 240, 180-186.	1.3	7
40	Measures of mixing quality in open flows with chaotic advection. Physics of Fluids, 2011, 23, .	1.6	19
41	On the minimum dilatation of pseudo-Anosov homeromorphisms on surfaces of small genus. Annales De L'Institut Fourier, 2011, 61, 105-144.	0.2	24
42	Stirring by swimming bodies. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 3487-3490.	0.9	67
43	Nonlinear dynamics of phase separation in thin films. Nonlinearity, 2010, 23, 1559-1583.	0.6	30
44	Chaos in the Gulf. Science, 2010, 330, 458-459.	6.0	6
45	Rotation Shields Chaotic Mixing Regions from No-Slip Walls. Physical Review Letters, 2010, 104, 204502.	2.9	25
46	Braids of entangled particle trajectories. Chaos, 2010, 20, 017516.	1.0	68
47	Open-flow mixing: Experimental evidence for strange eigenmodes. Physics of Fluids, 2009, 21, .	1.6	24
48	Optimizing the source distribution in fluid mixing. Physica D: Nonlinear Phenomena, 2008, 237, 918-929.	1.3	26
49	Bounds on the mixing enhancement for a stirred binary fluid. Physica D: Nonlinear Phenomena, 2008, 237, 2673-2684.	1.3	7
50	Scalar Decay in Chaotic Mixing. , 2008, , 3-36.		15
51	Topology of chaotic mixing patterns. Chaos, 2008, 18, 033123.	1.0	24
52	Slow decay of concentration variance due to no-slip walls in chaotic mixing. Physical Review E, 2008, 78, 026211.	0.8	37
53	Mixing effectiveness depends on the sourceâ€“sink structure: simulation results. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P07018.	0.9	5
54	Topological Entropy of Braids on the Torus. SIAM Journal on Imaging Sciences, 2008, 1, 79.	1.3	0

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55	Topological Entropy of Braids on the Torus. SIAM Journal on Applied Dynamical Systems, 2007, 6, 79-98.	0.7	17
56	Walls Inhibit Chaotic Mixing. Physical Review Letters, 2007, 99, 114501.	2.9	54
57	Dynamical effects and phase separation in cooled binary fluid films. Physical Review E, 2007, 76, 035303.	0.8	11
58	Bubbles and filaments: Stirring a Cahn-Hilliard fluid. Physical Review E, 2007, 75, 016216.	0.8	21
59	Stirring up trouble: Multi-scale mixing measures for steady scalar sources. Physica D: Nonlinear Phenomena, 2007, 231, 143-164.	1.3	34
60	Fall and rise of a viscoelastic filament. Journal of Fluid Mechanics, 2006, 563, 283.	1.4	7
61	Topological mixing with ghost rods. Physical Review E, 2006, 73, 036311.	0.8	63
62	Topology, braids and mixing in fluids. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 3251-3266.	1.6	55
63	Topological chaos in spatially periodic mixers. Physica D: Nonlinear Phenomena, 2006, 221, 92-100.	1.3	20
64	Multiscale mixing efficiencies for steady sources. Physical Review E, 2006, 74, 025301.	0.8	37
65	Measuring Topological Chaos. Physical Review Letters, 2005, 94, 084502.	2.9	48
66	The strange eigenmode in Lagrangian coordinates. Chaos, 2004, 14, 531-538.	1.0	12
67	Stretching and curvature of material lines in chaotic flows. Physica D: Nonlinear Phenomena, 2004, 198, 169-181.	1.3	27
68	A bound on mixing efficiency for the advectionâ€“diffusion equation. Journal of Fluid Mechanics, 2004, 521, 105-114.	1.4	42
69	Book Review ofTurbulent Flows, by Stephen B. Pope, Cambridge University Press, 2000, XXXIV+ 771 pp., Â£ 35.00 paperback (ISBN 0-521-59886-9), Â£ 80.00 hardback (ISBN-0-521-59125-2).. Geophysical and Astrophysical Fluid Dynamics, 2004, 98, 365-366.	0.4	0
70	Advectionâ€“diffusion in Lagrangian coordinates. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 309, 415-422.	0.9	27
71	Finite extension of polymers in turbulent flow. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 308, 445-450.	0.9	27
72	Chaotic mixing in a torus map. Chaos, 2003, 13, 502-507.	1.0	35

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73	The onset of dissipation in the kinematic dynamo. Physics of Plasmas, 2003, 10, 259-265.	0.7	5
74	Higher-order continuum approximation for rarefied gases. Physics of Fluids, 2003, 15, 3558-3567.	1.6	14
75	Numerical Study of Mixing in Microchannels With Patterned Zeta Potential Surfaces. , 2003, , 573.		4
76	Continuum equations for stellar dynamics. , 2003, , 377-392.		3
77	Derivatives and constraints in chaotic flows: asymptotic behaviour and a numerical method. Physica D: Nonlinear Phenomena, 2002, 172, 139-161.	1.3	15
78	The twisted top. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 283, 335-341.	0.9	10
79	Covariant time derivatives for dynamical systems. Journal of Physics A, 2001, 34, 5875-5885.	1.6	19
80	Geometrical constraints on finite-time Lyapunov exponents in two and three dimensions. Chaos, 2001, 11, 16.	1.0	27
81	Classification and Casimir invariants of Lieâ€“Poisson brackets. Physica D: Nonlinear Phenomena, 2000, 136, 205-244.	1.3	67
82	Dynamical range of the WINDMI model: An exploration of possible magnetospheric plasma states. Journal of Geophysical Research, 2000, 105, 12983-12996.	3.3	9
83	Invariants and Labels in Lie-Poisson Systems. Annals of the New York Academy of Sciences, 1998, 867, 109-119.	1.8	8
84	Energyâ€conserving truncations for convection with shear flow. Physics of Fluids, 1996, 8, 1715-1719.	1.6	53