

Jacques J Magnaudet

List of Publications by Year in descending order

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112
papers

6,597
citations

57758

44
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62596

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116
all docs

116
docs citations

116
times ranked

3286
citing authors

#	ARTICLE	IF	CITATIONS
1	The Motion of High-Reynolds-Number Bubbles in Inhomogeneous Flows. Annual Review of Fluid Mechanics, 2000, 32, 659-708.	25.0	616
2	The lift force on a spherical bubble in a viscous linear shear flow. Journal of Fluid Mechanics, 1998, 368, 81-126.	3.4	417
3	Accelerated flows past a rigid sphere or a spherical bubble. Part 1. Steady straining flow. Journal of Fluid Mechanics, 1995, 284, 97-135.	3.4	324
4	Wake-Induced Oscillatory Paths of Bodies Freely Rising or Falling in Fluids. Annual Review of Fluid Mechanics, 2012, 44, 97-121.	25.0	274
5	The effects of slightly soluble surfactants on the flow around a spherical bubble. Journal of Fluid Mechanics, 1997, 339, 25-53.	3.4	237
6	Path Instability of a Rising Bubble. Physical Review Letters, 2001, 88, 014502.	7.8	223
7	Hydrodynamic interactions between two spherical bubbles rising side by side in a viscous liquid. Journal of Fluid Mechanics, 2003, 497, 133-166.	3.4	162
8	The viscous drag force on a spherical bubble with a time-dependent radius. Physics of Fluids, 1998, 10, 550-554.	4.0	144
9	Wake instability of a fixed spheroidal bubble. Journal of Fluid Mechanics, 2007, 572, 311-337.	3.4	143
10	Bifurcations and symmetry breaking in the wake of axisymmetric bodies. Physics of Fluids, 2008, 20, .	4.0	143
11	Large-eddy simulation of high-Schmidt number mass transfer in a turbulent channel flow. Physics of Fluids, 1997, 9, 438-455.	4.0	139
12	The transverse force on clean and contaminated bubbles rising near a vertical wall at moderate Reynolds number. Journal of Fluid Mechanics, 2003, 495, 235-253.	3.4	130
13	An interface-capturing method for incompressible two-phase flows. Validation and application to bubble dynamics. International Journal of Multiphase Flow, 2007, 33, 109-133.	3.4	116
14	A note on the lift force on a spherical bubble or drop in a low-Reynolds-number shear flow. Physics of Fluids, 1997, 9, 3572-3574.	4.0	113
15	Experimental and numerical study of droplets hydrodynamics in microchannels. AIChE Journal, 2006, 52, 4061-4070.	3.6	109
16	Falling styles of disks. Journal of Fluid Mechanics, 2013, 719, 388-405.	3.4	104
17	Drag, deformation and lateral migration of a buoyant drop moving near a wall. Journal of Fluid Mechanics, 2003, 476, 115-157.	3.4	102
18	Path instability of rising spheroidal air bubbles: A shape-controlled process. Physics of Fluids, 2008, 20, .	4.0	102

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19	The generalized Kirchhoff equations and their application to the interaction between a rigid body and an arbitrary time-dependent viscous flow. <i>International Journal of Multiphase Flow</i> , 2002, 28, 1837-1851.	3.4	101
20	Oscillatory motion and wake instability of freely rising axisymmetric bodies. <i>Journal of Fluid Mechanics</i> , 2007, 573, 479-502.	3.4	100
21	Paths and wakes of deformable nearly spheroidal rising bubbles close to the transition to path instability. <i>Physical Review Fluids</i> , 2016, 1, .	2.5	99
22	The structure of the axisymmetric high-Reynolds number flow around an ellipsoidal bubble of fixed shape. <i>Physics of Fluids</i> , 1995, 7, 1265-1274.	4.0	91
23	Drag and lift forces on a bubble rising near a vertical wall in a viscous liquid. <i>Journal of Fluid Mechanics</i> , 2002, 461, 277-300.	3.4	90
24	Small inertial effects on a spherical bubble, drop or particle moving near a wall in a time-dependent linear flow. <i>Journal of Fluid Mechanics</i> , 2003, 485, 115-142.	3.4	88
25	Turbulent structure beneath surface gravity waves sheared by the wind. <i>Journal of Fluid Mechanics</i> , 1996, 328, 313-344.	3.4	81
26	Wake-induced forces and torques on a zigzagging/spiralling bubble. <i>Journal of Fluid Mechanics</i> , 2006, 567, 185.	3.4	81
27	Reversal of the lift force on an oblate bubble in a weakly viscous linear shear flow. <i>Journal of Fluid Mechanics</i> , 2009, 628, 23-41.	3.4	78
28	Thermal and dynamic evolution of a spherical bubble moving steadily in a superheated or subcooled liquid. <i>Physics of Fluids</i> , 1998, 10, 1256-1272.	4.0	77
29	Influence of slip on the dynamics of two-dimensional wakes. <i>Journal of Fluid Mechanics</i> , 2009, 633, 437-447.	3.4	73
30	Inertial dynamics of air bubbles crossing a horizontal fluid-fluid interface. <i>Journal of Fluid Mechanics</i> , 2012, 707, 405-443.	3.4	72
31	Marangoni-driven flower-like patterning of an evaporating drop spreading on a liquid substrate. <i>Nature Communications</i> , 2018, 9, 820.	12.8	69
32	Laboratory observations of mean flows under surface gravity waves. <i>Journal of Fluid Mechanics</i> , 2007, 573, 131-147.	3.4	67
33	Particles, Drops, and Bubbles Moving Across Sharp Interfaces and Stratified Layers. <i>Annual Review of Fluid Mechanics</i> , 2020, 52, 61-91.	25.0	67
34	Statistical structure of high-Reynolds-number turbulence close to the free surface of an open-channel flow. <i>Journal of Fluid Mechanics</i> , 2003, 474, 355-378.	3.4	66
35	Measurements of the streamwise vorticity in the wake of an oscillating bubble. <i>International Journal of Multiphase Flow</i> , 2009, 35, 195-203.	3.4	66
36	Turbulent mass transfer through a flat shear-free surface. <i>Journal of Fluid Mechanics</i> , 2006, 553, 155.	3.4	65

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37	Transition from spherical cap to toroidal bubbles. <i>Physics of Fluids</i> , 2006, 18, 052102.	4.0	63
38	Drag and lift forces on bubbles in a rotating flow. <i>Journal of Fluid Mechanics</i> , 2007, 571, 439-454.	3.4	63
39	Hydrodynamic structures of droplets engineered in rectangular micro-channels. <i>Microfluidics and Nanofluidics</i> , 2008, 5, 131-137.	2.2	58
40	Forces on a high-Reynolds-number spherical bubble in a turbulent flow. <i>Journal of Fluid Mechanics</i> , 2005, 532, 53-62.	3.4	56
41	Bifurcations in the wake of a thick circular disk. <i>Theoretical and Computational Fluid Dynamics</i> , 2010, 24, 305-313.	2.2	54
42	Large-Scale Simulations of Bubble-Induced Convection in a Liquid Layer. <i>Physical Review Letters</i> , 1999, 82, 4827-4830.	7.8	50
43	Effects of channel geometry on buoyancy-driven mixing. <i>Physics of Fluids</i> , 2008, 20, .	4.0	50
44	Wake of a spherical bubble or a solid sphere set fixed in a turbulent environment. <i>Physics of Fluids</i> , 2006, 18, 048102.	4.0	47
45	Preferential accumulation of bubbles in Couette-Taylor flow patterns. <i>Physics of Fluids</i> , 2007, 19, .	4.0	43
46	On the zigzag dynamics of freely moving axisymmetric bodies. <i>Physics of Fluids</i> , 2005, 17, 098107.	4.0	39
47	High-Reynolds-number turbulence in a shear-free boundary layer: revisiting the HuntGraham theory. <i>Journal of Fluid Mechanics</i> , 2003, 484, 167-196.	3.4	38
48	A triple decomposition of the fluctuating motion below laboratory wind water waves. <i>Journal of Geophysical Research</i> , 1995, 100, 741.	3.3	37
49	Wall effects in non-Boussinesq density currents. <i>Journal of Fluid Mechanics</i> , 2008, 616, 445-475.	3.4	37
50	Global linear stability analysis of the wake and path of buoyancy-driven disks and thin cylinders. <i>Journal of Fluid Mechanics</i> , 2014, 740, 278-311.	3.4	37
51	Path oscillations and enhanced drag of light rising spheres. <i>Journal of Fluid Mechanics</i> , 2018, 841, 228-266.	3.4	37
52	Generalized slip condition over rough surfaces. <i>Journal of Fluid Mechanics</i> , 2019, 858, 407-436.	3.4	36
53	Dynamics of axisymmetric bodies rising along a zigzag path. <i>Journal of Fluid Mechanics</i> , 2008, 606, 209-223.	3.4	35
54	The steady oblique path of buoyancy-driven disks and spheres. <i>Journal of Fluid Mechanics</i> , 2012, 707, 24-36.	3.4	35

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55	Some Aspects of the Lift Force on a Spherical Bubble. <i>Flow, Turbulence and Combustion</i> , 1997, 58, 441-461.	0.2	32
56	Spiraling Bubbles: How Acoustic and Hydrodynamic Forces Compete. <i>Physical Review Letters</i> , 2001, 86, 4819-4822.	7.8	32
57	A numerical investigation of horizontal viscous gravity currents. <i>Journal of Fluid Mechanics</i> , 2009, 630, 71-91.	3.4	31
58	Migration and deformation of bubbles rising in a wall-bounded shear flow at finite Reynolds number. <i>Journal of Fluid Mechanics</i> , 2009, 634, 463.	3.4	28
59	Dynamics of a two-dimensional upflowing mixing layer seeded with bubbles: Bubble dispersion and effect of two-way coupling. <i>Physics of Fluids</i> , 2006, 18, 103304.	4.0	27
60	Inertial settling of a sphere through an interface. Part 1. From sphere flotation to wake fragmentation. <i>Journal of Fluid Mechanics</i> , 2018, 835, 762-807.	3.4	27
61	A "reciprocal" theorem for the prediction of loads on a body moving in an inhomogeneous flow at arbitrary Reynolds number. <i>Journal of Fluid Mechanics</i> , 2011, 689, 564-604.	3.4	26
62	Inertial settling of a sphere through an interface. Part 2. Sphere and tail dynamics. <i>Journal of Fluid Mechanics</i> , 2018, 835, 808-851.	3.4	26
63	Core mechanisms of drag enhancement on bodies settling in a stratified fluid. <i>Journal of Fluid Mechanics</i> , 2019, 875, 622-656.	3.4	24
64	Time-dependent lift and drag on a rigid body in a viscous steady linear flow. <i>Journal of Fluid Mechanics</i> , 2019, 864, 554-595.	3.4	24
65	High-Schmidt number mass transfer through turbulent gas-liquid interfaces. <i>International Journal of Heat and Fluid Flow</i> , 1998, 19, 522-532.	2.4	23
66	The history force on a rapidly shrinking bubble rising at finite Reynolds number. <i>Physics of Fluids</i> , 2004, 16, 3247-3255.	4.0	22
67	Linear stability and sensitivity of the flow past a fixed oblate spheroidal bubble. <i>Physics of Fluids</i> , 2013, 25, .	4.0	22
68	A global stability approach to wake and path instabilities of nearly oblate spheroidal rising bubbles. <i>Physics of Fluids</i> , 2016, 28, .	4.0	22
69	A quasi-static approach to the stability of the path of heavy bodies falling within a viscous fluid. <i>Journal of Fluids and Structures</i> , 2011, 27, 758-767.	3.4	21
70	The onset of unsteadiness of two-dimensional bodies falling or rising freely in a viscous fluid: a linear study. <i>Journal of Fluid Mechanics</i> , 2012, 690, 173-202.	3.4	21
71	Linear instability of the path of a freely rising spheroidal bubble. <i>Journal of Fluid Mechanics</i> , 2014, 751, .	3.4	21
72	Revisiting the Taylor-Culick approximation: Retraction of an axisymmetric filament. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	21

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73	Orbital rotational motion and turbulence below laboratory wind water waves. Journal of Geophysical Research, 1995, 100, 757.	3.3	20
74	Dynamical Model for the Buoyancy-Driven Zigzag Motion of Oblate Bodies. Physical Review Letters, 2009, 102, 134505.	7.8	19
75	Experimental and numerical investigations of flow structure and momentum transport in a turbulent buoyancy-driven flow inside a tilted tube. Physics of Fluids, 2009, 21, .	4.0	19
76	Three-dimensional dynamics of a pair of deformable bubbles rising initially in line. Part 1. Moderately inertial regimes. Journal of Fluid Mechanics, 2021, 920, .	3.4	19
77	Lateral migration of a small spherical buoyant particle in a wall-bounded linear shear flow. Physics of Fluids, 2009, 21, 083303.	4.0	18
78	Evolution of wake structure and wake-induced loads along the path of freely rising axisymmetric bodies. Physics of Fluids, 2007, 19, 113302.	4.0	17
79	Influence of gravity upon the bubble distribution in a turbulent pipe flow: Comparison between numerical simulations and experimental data. Journal De Chimie Physique Et De Physico-Chimie Biologique, 1999, 96, 951-957.	0.2	17
80	Turbulence-induced secondary motion in a buoyancy-driven flow in a circular pipe. Physics of Fluids, 2009, 21, .	4.0	16
81	Hydrodynamic forces on a clean spherical bubble translating in a wall-bounded linear shear flow. Physical Review Fluids, 2020, 5, .	2.5	16
82	The emptying of a bottle as a test case for assessing interfacial momentum exchange models for Euler-Euler simulations of multi-scale gas-liquid flows. International Journal of Multiphase Flow, 2018, 106, 109-124.	3.4	15
83	Flow structure and loads over inclined cylindrical rodlike particles and fibers. Physical Review Fluids, 2021, 6, .	2.5	12
84	Modelling of inhomogeneous turbulence in the absence of mean velocity gradients. Flow, Turbulence and Combustion, 1993, 51, 525-531.	0.2	11
85	Weakly Nonlinear Model with Exact Coefficients for the Fluttering and Spiraling Motion of Buoyancy-Driven Bodies. Physical Review Letters, 2015, 115, 114501.	7.8	11
86	Asymmetry-induced particle drift in a rotating flow. Physics of Fluids, 2005, 17, 072106.	4.0	10
87	Near-wall dynamics of a neutrally buoyant spherical particle in an axisymmetric stagnation point flow. Journal of Fluid Mechanics, 2020, 892, .	3.4	10
88	Some Aspects of the Lift Force on a Spherical Bubble. Fluid Mechanics and Its Applications, 1998, , 441-461.	0.2	8
89	Une méthode de simulation d'écoulements diphasiques sans reconstruction d'interfaces. Comptes Rendus De L'Academie De Sciences - Serie Iib: Mecanique, Physique, Chimie, Astronomie, 2000, 328, 25-32.	0.1	7
90	On the Dispersion of Solid Particles in a Liquid Agitated by a Bubble Swarm. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2007, 38, 739-750.	2.1	7

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91	Buoyancy-induced turbulence in a tilted pipe. <i>Journal of Fluid Mechanics</i> , 2015, 762, 435-477.	3.4	7
92	Drag and lift forces on a rigid sphere immersed in a wall-bounded linear shear flow. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	7
93	Compliant riblets: Problem formulation and effective macrostructural properties. <i>Journal of Fluids and Structures</i> , 2019, 91, 102708.	3.4	5
94	Emptying of a bottle: How a robust pressure-driven oscillator coexists with complex two-phase flow dynamics. <i>International Journal of Multiphase Flow</i> , 2019, 118, 23-36.	3.4	4
95	Near-wall forces on a neutrally buoyant spherical particle in an axisymmetric stagnation-point flow. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	3.4	4
96	Hydrodynamic torque on a slender cylinder rotating perpendicularly to its symmetry axis. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	4
97	Modifications d'une couche de mÃ©lange verticale induites par la prÃ©sence de bulles. <i>Comptes Rendus De L'Academie De Sciences - Serie IIb: Mecanique, Physique, Chimie, Astronomie</i> , 1998, 326, 627-634.	0.1	3
98	A "reciprocal" theorem for the prediction of loads on a body moving in an inhomogeneous flow at arbitrary Reynolds number"ACORRIGENDUM. <i>Journal of Fluid Mechanics</i> , 2011, 689, 605-606.	3.4	2
99	Struggling with Boundary Layers and Wakes of High-Reynolds-Number Bubbles. , 2006, , 263-271.		2
100	Large Eddy Simulation of a Spatially Growing Boundary Layer Using a Dynamic Mixed Model. <i>ERCOFTAC Series</i> , 1999, , 99-110.	0.1	2
101	Three-dimensional dynamics of a pair of deformable bubbles rising initially in line. Part 2. Highly inertial regimes. <i>Journal of Fluid Mechanics</i> , 2022, 943, .	3.4	2
102	Small inertial effects on a spherical bubble, drop or particle moving near a wall in a time-dependent linear flow. <i>Journal of Fluid Mechanics</i> , 2004, 503, 375-376.	3.4	1
103	Bubble capture by a propeller. <i>Journal of Fluid Mechanics</i> , 2006, 560, 311.	3.4	1
104	Simulation of neutrophil motion and deformation: influence of rheology and flow configuration. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2011, 14, 107-109.	1.6	1
105	Interface Tracking Methods Applied to Phase Separation. , 2014, , .		1
106	Simulating the Emptying of a Water Bottle With a Multi-Scale Two-Fluid Approach. , 2018, , .		1
107	Dynamique de bulles traversant l'interface sÃ©parant deux liquides. <i>Mecanique Et Industries</i> , 2011, 12, 163-167.	0.2	0
108	Mouvements oscillatoires de corps en ascension dans un fluide peu visqueux : l'effet du rapport de forme. <i>Mecanique Et Industries</i> , 2005, 6, 279-283.	0.2	0

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109	Large Interface Simulation in Multiphase Flow Phenomena. , 2006, , .		0
110	Bifurcations in the wake of a thick circular disk. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 321-329.	0.2	0
111	Dynamics of Oblate Freely Rising Bodies. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 213-222.	0.2	0
112	The Role of Entrapment Phenomena in the Modification of a Plane Mixing Layer by Bubbles. Fluid Mechanics and Its Applications, 1998, , 313-316.	0.2	0