Dominique Legendre

List of Publications by Year
in descending order

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62 papers	2,735 citations	218677 26 h-index	175258 52 g-index
62 all docs	62 docs citations	62 times ranked	1828 citing authors

#	Article	IF	Citations
1	The lift force on a spherical bubble in a viscous linear shear flow. Journal of Fluid Mechanics, 1998, 368, 81-126.	3.4	417
2	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
3	Numerical simulation of static and sliding drop with contact angle hysteresis. Journal of Computational Physics, 2010, 229, 2453-2478.	3.8	156
4	Experimental characterization of the agitation generated by bubbles rising at high Reynolds number. Journal of Fluid Mechanics, 2010, 643, 509-539.	3.4	155
5	The viscous drag force on a spherical bubble with a time-dependent radius. Physics of Fluids, 1998, 10, 550-554.	4.0	144
6	On the deformation of gas bubbles in liquids. Physics of Fluids, 2012, 24, .	4.0	130
7	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
8	On the combined effects of surface tension force calculation and interface advection on spurious currents within Volume of Fluid and Level Set frameworks. Journal of Computational Physics, 2015, 297, 611-636.	3.8	87
9	Hydrodynamics of gasâ€“liquid Taylor flow in rectangular microchannels. Microfluidics and Nanofluidics, 2012, 12, 355-369.	2.2	86
10	Interaction between two spherical bubbles rising in a viscous liquid. Journal of Fluid Mechanics, 2011, 673, 406-431.	3.4	82
11	Reversal of the lift force on an oblate bubble in a weakly viscous linear shear flow. Journal of Fluid Mechanics, 2009, 628, 23-41.	3.4	78
12	Thermal and dynamic evolution of a spherical bubble moving steadily in a superheated or subcooled liquid. Physics of Fluids, 1998, 10, 1256-1272.	4.0	77
13	Influence of slip on the dynamics of two-dimensional wakes. Journal of Fluid Mechanics, 2009, 633, 437-447.	3.4	73
14	Dynamics and mass transfer of rising bubbles in a homogenous swarm at large gas volume fraction. Journal of Fluid Mechanics, 2015, 763, 254-285.	3.4	72
15	Mass or heat transfer from spheroidal gas bubbles rising through a stationary liquid. Chemical Engineering Science, 2010, 65, 6296-6309.	3.8	59
16	The coefficient of restitution for air bubbles colliding against solid walls in viscous liquids. Physics of Fluids, 2009, 21, .	4.0	57
17	Forces on a high-Reynolds-number spherical bubble in a turbulent flow. Journal of Fluid Mechanics, 2005, 532, 53-62.	3.4	56
18	A model of bubble-induced turbulence based on large-scale wake interactions. Journal of Fluid Mechanics, 2013, 719, 362-387.	3.4	56

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19	Experimental study of mass transfer in a dense bubble swarm. Chemical Engineering Science, 2011, 66, 3432-3440.	3.8	52
20	Numerical simulation of spreading drops. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 432, 29-37.	4.7	51
21	Numerical simulation of bubble dispersion in turbulent Taylor-Couette flow. Physics of Fluids, 2014, 26, .	4.0	48
22	Mass or heat transfer inside a spherical gas bubble at low to moderate Reynolds number. International Journal of Heat and Mass Transfer, 2013, 67, 1096-1105.	4.8	43
23	Comparison between numerical models for the simulation of moving contact lines. Computers and Fluids, 2015, 113, 2-13.	2.5	42
24	The effect of confinement on the motion of a single clean bubble. Journal of Fluid Mechanics, 2008, 616, 419-443.	3.4	40
25	Numerical simulation of bubble generation in a T-junction. Computers and Fluids, 2012, 56, 49-60.	2.5	31
26	On the relation between the drag and the vorticity produced on a clean bubble. Physics of Fluids, 2007, 19, 018102.	4.0	28
27	Mixing and recirculation characteristics of gasâ€“liquid Taylor flow in microreactors. Chemical Engineering Research and Design, 2013, 91, 2225-2234.	5.6	25
28	Influence of Soluble Surfactants and Deformation on the Dynamics of Centered Bubbles in Cylindrical Microchannels. Langmuir, 2018, 34, 10048-10062.	3.5	24
29	Inertial coalescence of droplets on a partially wetting substrate. Physics of Fluids, 2013, 25, .	4.0	23
30	Nanoscale Deformation of a Liquid Surface. Physical Review Letters, 2012, 108, 106104.	7.8	21
31	Image processing for the experimental investigation of dense dispersed flows: Application to bubbly flows. International Journal of Multiphase Flow, 2019, 111, 16-30.	3.4	19
32	Lifetime of Surface Bubbles in Surfactant Solutions. Langmuir, 2020, 36, 7749-7764.	3.5	17
33	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
34	A hybrid VOF-IBM method for the simulation of freezing liquid films and freezing drops. Journal of Computational Physics, 2021, 432, 110160.	3.8	15
35	Model for the dynamics of micro-bubbles in high-Reynolds-number flows. Journal of Fluid Mechanics, 2019, 879, 554-578.	3.4	13
36	Basset-Boussinesq history force of a fluid sphere. Physical Review Fluids, 2019, 4, .	2.5	13

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37	On single bubble mass transfer in a volatile liquid. International Journal of Heat and Mass Transfer, 2018, 125, 1144-1155.	4.8	12
38	Bubbles determine the amount of alcohol in Mezcal. Scientific Reports, 2020, 10, 11014.	3.3	11
39	Numerical study of conjugate mass transfer from a spherical droplet at moderate Reynolds number. International Journal of Heat and Mass Transfer, 2020, 157, 119958.	4.8	11
40	Enhancement of wall friction by fixed cap bubbles. Physics of Fluids, 2008, 20, 051704.	4.0	10
41	On the use of a friction model in a Volume of Fluid solver for the simulation of dynamic contact lines. Journal of Computational Physics, 2019, 393, 29-45.	3.8	10
42	Conditions for the sliding-bouncing transition for the interaction of a bubble with an inclined wall. Physical Review Fluids, 2016, 1, .	2.5	10
43	AFM Tip Effect on a Thin Liquid Film. Langmuir, 2013, 29, 7749-7757.	3.5	9
44	Drag modulation in turbulent boundary layers subject to different bubble injection strategies. Computers and Fluids, 2019, 178, 73-87.	2.5	9
45	Unsteady rising of clean bubble in low viscosity liquid. Bubble Science, Engineering & Technology, 2012, 4, 4-11.	0.2	8
46	Effect of spheroid bubble interface contamination on gas-liquid mass transfer at intermediate Reynolds numbers: From DNS to Sherwood numbers. Chemical Engineering Science, 2022, 248, 116979.	3.8	8
47	Control of a Gas-Liquid Inline Swirl Separator Based on Tomographic Measurements. IFAC-PapersOnLine, 2020, 53, 11483-11490.	0.9	6
48	A note on the onset of recirculation in a 2D Couette flow over a wavy bottom. Physics of Fluids, 2015, 27, 014108.	4.0	5
49	Numerical Simulation of Sliding Drops on an Inclined Solid Surface. Environmental Science and Engineering, 2014, , 47-69.	0.2	5
50	Rivulet cascade from falling liquid films with side contact lines. Physical Review Fluids, 2020, 5, .	2.5	5
51	Sliding motion of a bubble against an inclined wall from moderate to high bubble Reynolds number. Physical Review Fluids, 2019, 4, .	2.5	5
52	Experiments and modelling of a draft tube airlift reactor operated at high gas throughputs. Chemical Engineering Science, 2013, 104, 32-43.	3.8	4
53	van der Waals interaction between a moving nano-cylinder and a liquid thin film. Soft Matter, 2017, 13, 3822-3830.	2.7	4
54	Enhancement of a 2D front-tracking algorithm with a non-uniform distribution of Lagrangian markers. Journal of Computational Physics, 2018, 358, 173-200.	3.8	4

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55	Stochastic wall model for turbulent pipe flow using Immersed Boundary Method and Large Eddy Simulation. Computers and Fluids, 2022, 239, 105419.	2.5	4
56	A penalization method for the simulation of bubbly flows. Journal of Computational Physics, 2018, 374, 563-590.	3.8	3
57	On the spreading of high-pressure spray-generated liquid wall films. International Journal of Multiphase Flow, 2021, 139, 103619.	3.4	3
58	Fluid inertia effects on the motion of small spherical bubbles or solid spheres in turbulent flows. Journal of Fluid Mechanics, 2021, 921, .	3.4	3
59	Towards Tomography-Based Real-Time Control of Multiphase Flows: A Proof of Concept in Inline Fluid Separation. Sensors, 2022, 22, 4443.	3.8	2
60	Comparison of Different Numerical Interface Capturing Methods for the Simulation of Faraday Waves. Processes, 2021, 9, 948.	2.8	1
61	How molecular effects affect solutal Marangoni flows. Physical Review Fluids, 2022, 7, .	2.5	1
62	Existence of Moffatt vortices at a moving contact line between two fluids. Physical Review Fluids, 2017, 2, .	2.5	0