Roberto Zenit

List of Publications by Year
in descending order

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109 papers	3,102 citations	159358 30 h-index	174990 52 g-index
112 all docs	112 docs citations	112 times ranked	2216 citing authors

#	Article	IF	Citations
1	Particleâ€“wall collisions in a viscous fluid. Journal of Fluid Mechanics, 2001, 433, 329-346.	1.4	303
2	Dense granular flow around an immersed cylinder. Physics of Fluids, 2003, 15, 1622.	1.6	141
3	On the deformation of gas bubbles in liquids. Physics of Fluids, 2012, 24, .	1.6	130
4	Measurements of the average properties of a suspension of bubbles rising in a vertical channel. Journal of Fluid Mechanics, 2001, 429, 307-342.	1.4	125
5	Revisiting the 1954 suspension experiments of R. A. Bagnold. Journal of Fluid Mechanics, 2002, 452, 1-24.	1.4	120
6	Computer simulations of the collapse of a granular column. Physics of Fluids, 2005, 17, 031703.	1.6	115
7	Path instability of rising spheroidal air bubbles: A shape-controlled process. Physics of Fluids, 2008, 20, .	1.6	102
8	Hydrodynamic Interactions Among Bubbles, Drops, and Particles in Non-Newtonian Liquids. Annual Review of Fluid Mechanics, 2018, 50, 505-534.	10.8	101
9	Dilute granular flow around an immersed cylinder. Physics of Fluids, 2003, 15, 3318-3330.	1.6	90
10	Collisional particle pressure measurements in solidâ€“liquid flows. Journal of Fluid Mechanics, 1997, 353, 261-283.	1.4	85
11	Fluid elasticity increases the locomotion of flexible swimmers. Physics of Fluids, 2013, 25, .	1.6	83
12	Increased mobility of bidisperse granular avalanches. Journal of Fluid Mechanics, 2007, 593, 475-504.	1.4	69
13	Measurements of the streamwise vorticity in the wake of an oscillating bubble. International Journal of Multiphase Flow, 2009, 35, 195-203.	1.6	66
14	A note on the modelling of the bouncing of spherical drops or solid spheres on a wall in viscous fluid. Chemical Engineering Science, 2006, 61, 3543-3549.	1.9	65
15	Hydrodynamic interaction between a pair of bubbles ascending in shear-thinning inelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 118-132.	1.0	65
16	Measurement of pseudoturbulence intensity in monodispersed bubbly liquids for 10<Re<500. Physics of Fluids, 2007, 19, .	1.6	63
17	The flow of non-Newtonian fluids around bubbles and its connection to the jump discontinuity. Journal of Non-Newtonian Fluid Mechanics, 2003, 111, 199-209.	1.0	59
18	The coefficient of restitution for air bubbles colliding against solid walls in viscous liquids. Physics of Fluids, 2009, 21, .	1.6	57

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19	Motion of a particle near a rough wall in a viscous shear flow. Journal of Fluid Mechanics, 2007, 570, 431-453.	1.4	55
20	Helical propulsion in shear-thinning fluids. Journal of Fluid Mechanics, 2017, 812, .	1.4	48
21	Power spectral distributions of pseudo-turbulent bubbly flows. Physics of Fluids, 2013, 25, .	1.6	42
22	Mathematical and physical simulation of the interaction between a gas jet and a liquid free surface. Applied Mathematical Modelling, 2011, 35, 4991-5005.	2.2	41
23	The effect of confinement on the motion of a single clean bubble. Journal of Fluid Mechanics, 2008, 616, 419-443.	1.4	40
24	A study of velocity discontinuity for single air bubbles rising in an associative polymer. Physics of Fluids, 2006, 18, 121510.	1.6	39
25	Complex fluids affect low-Reynolds number locomotion in a kinematic-dependent manner. Experiments in Fluids, 2015, 56, 1.	1.1	38
26	Solid fraction fluctuations in solidâ€“liquid flows. International Journal of Multiphase Flow, 2000, 26, 763-781.	1.6	37
27	Collisions in a liquid fluidized bed. International Journal of Multiphase Flow, 2011, 37, 695-705.	1.6	36
28	Clustering in high Re monodispersed bubbly flows. Physics of Fluids, 2005, 17, 091701.	1.6	35
29	Mechanics of Immersed Particle Collisions. Journal of Fluids Engineering, Transactions of the ASME, 1999, 121, 179-184.	0.8	32
30	Bubble cluster formation in shear-thinning inelastic bubbly columns. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 32-41.	1.0	32
31	The unsteady drag force on a cylinder immersed in a dilute granular flow. Physics of Fluids, 2006, 18, 043301.	1.6	30
32	Microbubble generation using fiber optic tips coated with nanoparticles. Optics Express, 2012, 20, 8732.	1.7	29
33	Study of the properties of bubbly flows in Boger-type fluids. Journal of Non-Newtonian Fluid Mechanics, 2012, 175-176, 1-9.	1.0	29
34	Mathematical Modeling of Fluid Flow in a Water Physical Model of an Aluminum Degassing Ladle Equipped with an Impeller-Injector. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 423-435.	1.0	24
35	Vortex ring formation for low Re numbers. Acta Mechanica, 2013, 224, 383-397.	1.1	24
36	The fluid mechanics of bubbly drinks. Physics Today, 2018, 71, 44-50.	0.3	22

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37	Velocity fluctuations resulting from the interaction of a bubble with a vertical wall. Physics of Fluids, 2005, 17, 098106.	1.6	20
38	Computer simulations of the collapse of columns formed by elongated grains. Physical Review E, 2012, 85, 061304.	0.8	19
39	A hydrodynamic description of the flow behavior in shaken flasks. Biochemical Engineering Journal, 2015, 99, 61-66.	1.8	19
40	On the hydrodynamics characterization of the straight MaxblendÂ® impeller with Newtonian fluids. Chemical Engineering Research and Design, 2012, 90, 1117-1128.	2.7	18
41	The formation of vortex rings in shear-thinning liquids. Journal of Non-Newtonian Fluid Mechanics, 2013, 194, 1-13.	1.0	18
42	Experimental study on laminar flow over two confined isothermal cylinders in tandem during mixed convection. International Journal of Thermal Sciences, 2017, 115, 176-196.	2.6	18
43	Effect of the Fluidâ€Dynamic Structure on the Mixing Time of a Ladle Furnace. Steel Research International, 2018, 89, 1700281.	1.0	18
44	Viscoelastic propulsion of a rotating dumbbell. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	18
45	Lifetime of Surface Bubbles in Surfactant Solutions. Langmuir, 2020, 36, 7749-7764.	1.6	17
46	Drag coefficient for a sedimenting and rotating sphere in a viscoelastic fluid. Physical Review Fluids, 2019, 4, .	1.0	17
47	The micromechanical behavior of lyophilized glutaraldehyde-treated bovine pericardium under uniaxial tension. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 640-646.	1.5	16
48	Note: Design of a novel rotating magnetic field device. Review of Scientific Instruments, 2012, 83, 066109.	0.6	16
49	Experimental study of a model valve with flexible leaflets in a pulsatile flow. Journal of Fluid Mechanics, 2014, 739, 338-362.	1.4	16
50	Impedance probe to measure local gas volume fraction and bubble velocity in a bubbly liquid. Review of Scientific Instruments, 2003, 74, 2817-2827.	0.6	15
51	A criterion for the transition from wall to core peak gas volume fraction distributions in bubbly flows. International Journal of Multiphase Flow, 2012, 43, 56-61.	1.6	15
52	Physical Modeling of Fluid Flow in Ladles of Aluminum Equipped with Impeller and Gas Purging For Degassing. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 974-983.	1.0	15
53	Compact bubble clusters in Newtonian and non-Newtonian liquids. Physics of Fluids, 2014, 26, .	1.6	15
54	Drift by air bubbles crossing an interface of a stratified medium at moderate Reynolds number. International Journal of Multiphase Flow, 2016, 85, 258-266.	1.6	15

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55	Effect of Separation Angle and Nozzle Radial Position on Mixing Time in Ladles with Two Nozzles. Journal of Applied Fluid Mechanics, 2018, 11, 11-20.	0.4	13
56	The impulsive motion of a liquid resulting from a particle collision. Journal of Fluid Mechanics, 1998, 375, 345-361.	1.4	12
57	On the flow of associative polymers past a sphere: Evaluation of negative wake criteria. Physics of Fluids, 2009, 21, .	1.6	12
58	The flow inside shaking flasks and its implication for mycelial cultures. Chemical Engineering Science, 2016, 152, 163-171.	1.9	12
59	Shear flow of a suspension of bubbles rising in an inclined channel. Journal of Fluid Mechanics, 2004, 515, 261-292.	1.4	11
60	Experimental study of the effect of wettability on the relative permeability for airâ€“water flow through porous media. International Journal of Multiphase Flow, 2019, 120, 103091.	1.6	11
61	Bubbles determine the amount of alcohol in Mezcal. Scientific Reports, 2020, 10, 11014.	1.6	11
62	Measurement of the temperature rise in non-Newtonian oscillatory pipe flows. Journal of Non-Newtonian Fluid Mechanics, 2003, 109, 157-176.	1.0	10
63	Viscous Filament Fragmentation in a Turbulent Flow Inside a Stirred Tank. Chemical Engineering Communications, 2015, 202, 1251-1260.	1.5	10
64	Front-back asymmetry controls the impact of viscoelasticity on helical swimming. Physical Review Fluids, 2021, 6, .	1.0	10
65	Dynamics of a helical swimmer crossing viscosity gradients. Physical Review Fluids, 2021, 6, .	1.0	10
66	Conditions for the sliding-bouncing transition for the interaction of a bubble with an inclined wall. Physical Review Fluids, 2016, 1, .	1.0	10
67	Compaction force in a confined granular column. Physical Review E, 2003, 68, 051301.	0.8	9
68	Evaluation of drag correction factor for spheres settling in associative polymers. Rheologica Acta, 2010, 49, 979-984.	1.1	9
69	A Hydrodynamic Instability Is Used to Create Aesthetically Appealing Patterns in Painting. PLoS ONE, 2015, 10, e0126135.	1.1	9
70	Effects of inertia and turbulence on rheological measurements of neutrally buoyant suspensions. Journal of Fluid Mechanics, 2017, 811, 525-543.	1.4	9
71	Heat Transfer Resulting From the Interaction of a Vortex Pair With a Heated Wall. Journal of Heat Transfer, 2008, 130, .	1.2	8
72	Viscous pumping inspired by flexible propulsion. Bioinspiration and Biomimetics, 2014, 9, 036007.	1.5	8

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73	Texture Analysis of Dried Droplets for the Quality Control of Medicines. Sensors, 2021, 21, 4048.	2.1	8
74	Some fluid mechanical aspects of artistic painting. Physical Review Fluids, 2019, 4, .	1.0	8
75	Effect of eccentricity on the pumping capacity in an unbaffled vessel. Canadian Journal of Chemical Engineering, 2011, 89, 1051-1058.	0.9	7
76	A space-fractional model of thermo-electromagnetic wave propagation in anisotropic media. Applied Thermal Engineering, 2016, 93, 529-536.	3.0	7
77	Self-propulsion of a helical swimmer in granular matter. Physical Review Fluids, 2019, 4, .	1.0	7
78	Fluid velocity fluctuations in a collision of a sphere with a wall. Physics of Fluids, 2011, 23, .	1.6	6
79	Encapsulation of Droplets Using Cusp Formation behind a Drop Rising in a Non-Newtonian Fluid. Fluids, 2018, 3, 54.	0.8	6
80	Coiling of a viscoelastic fluid filament. Physical Review Fluids, 2021, 6, .	1.0	6
81	Study of the Velocity and Strain Fields in the Flow Through Prosthetic Heart Valves. Journal of Biomechanical Engineering, 2011, 133, 121003.	0.6	5
82	Sedimentation of a rotating sphere in a power-law fluid. Journal of Non-Newtonian Fluid Mechanics, 2014, 213, 27-30.	1.0	5
83	Negative vortices: The formation of vortex rings with reversed rotation in viscoelastic liquids. Physics of Fluids, 2015, 27, .	1.6	5
84	A new model for the computation of the formation factor of core rocks. Journal of Structural Geology, 2017, 97, 189-198.	1.0	5
85	Topological invariants can be used to quantify complexity in abstract paintings. Knowledge-Based Systems, 2017, 126, 48-55.	4.0	5
86	Dynamics of a helical swimmer crossing an interface between two immiscible fluids. Physical Review Fluids, 2019, 4, .	1.0	5
87	Sliding motion of a bubble against an inclined wall from moderate to high bubble Reynolds number. Physical Review Fluids, 2019, 4, .	1.0	5
88	Application of the Eulerâ€“Lagrange Method to Model Developed Hydrodynamic Slugs in Conduits. Journal of Fluids Engineering, Transactions of the ASME, 2011, 133, .	0.8	4
89	The effect of column tilt on flow homogeneity and particle agitation in a liquid fluidized bed. International Journal of Multiphase Flow, 2017, 92, 50-60.	1.6	4
90	Pollock avoided hydrodynamic instabilities to paint with his dripping technique. PLoS ONE, 2019, 14, e0223706.	1.1	4

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91	Force and torque-free helical tail robot to study low Reynolds number micro-organism swimming. Review of Scientific Instruments, 2022, 93, 044103.	0.6	4
92	On the Direct and Radiated Components of the Collisional Particle Pressure in Liquid-Solid Flows. Flow, Turbulence and Combustion, 1997, 58, 305-317.	0.2	3
93	Reduction of compaction force in a confined bidisperse granular media. Physical Review E, 2013, 87, 052210.	0.8	3
94	Effect of the curvature of elastic plates on the evolution of pulsatile flow fields. Journal of Fluids and Structures, 2015, 56, 177-189.	1.5	3
95	The lifespan of clusters in confined bubbly liquids. International Journal of Multiphase Flow, 2018, 106, 138-146.	1.6	3
96	Hydrodynamic Characterization of Three Axial Impellers under Gassed and Ungassed Conditions. Journal of Chemical Engineering of Japan, 2016, 49, 894-903.	0.3	2
97	The dynamics of compound drops at high Reynolds numbers: Drag, shape, and trajectory. International Journal of Multiphase Flow, 2021, 142, 103699.	1.6	2
98	Interaction of a vortex ring with a natural convective layer. Physics of Fluids, 2014, 26, 083602.	1.6	1
99	Experimental study of the deflections of curved plates exposed to pulsating cross-flows. Acta Mechanica, 2016, 227, 3621-3637.	1.1	1
100	On the maximum operating frequency of prosthetic heart valves. Biomedical Physics and Engineering Express, 2018, 4, 047007.	0.6	1
101	Using CFD and PIV to investigate rotating cage-related hydrodynamics for CO2 corrosion studies analyzing 2-, 4- and 8-coupons setups. Anti-Corrosion Methods and Materials, 2019, 66, 802-811.	0.6	1
102	A Conjugate Thermo-Electric Model for a Composite Medium. PLoS ONE, 2014, 9, e97895.	1.1	1
103	Modelado fÃsico de la incidencia de un chorro de aire sobre una superficie de agua. Revista De Metalurgia, 2010, 46, 421-434.	0.1	1
104	Average properties of bidisperse bubbly flows. Physical Review Fluids, 2018, 3, .	1.0	1
105	Viscoelastic levitation. Journal of Fluid Mechanics, 2022, 943, .	1.4	1
106	Mathematical Modeling of Impingement of an Air Jet in a Liquid Bath. Materials Research Society Symposia Proceedings, 2010, 1276, 1.	0.1	0
107	GRAIN DRYING AND AERATION IN A SOLAR HEXAGONAL SILO. Particulate Science and Technology, 2001, 19, 45-65.	1.1	0
108	On the Modeling Strategies for Hydrodynamic Slugging in Conduits of General Shapes and Layouts. Environmental Science and Engineering, 2012, , 313-318.	0.1	0

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109	Pseudoturbulence in Bubbly and Transition Flow Regimes. Environmental Science and Engineering, 2013, , 217-224.	0.1	0