Miguel A Herrada

List of Publications by Year
in descending order

117 papers	2,348 citations	218677 26 h-index	265206 42 g-index
120 all docs	120 docs citations	120 times ranked	1621 citing authors

#	Article	IF	Citations
1	Review on the physics of electrospray: From electrokinetics to the operating conditions of single and coaxial Taylor cone-jets, and AC electrospray. Journal of Aerosol Science, 2018, 125, 32-56.	3.8	182
2	A charge-conservative approach for simulating electrohydrodynamic two-phase flows using volume-of-fluid. Journal of Computational Physics, 2011, 230, 1939-1955.	3.8	169
3	Focusing capillary jets close to the continuum limit. Nature Physics, 2007, 3, 737-742.	16.7	111
4	Liquid flow focused by a gas: Jetting, dripping, and recirculation. Physical Review E, 2008, 78, 036323.	2.1	80
5	Numerical simulation of electrospray in the cone-jet mode. Physical Review E, 2012, 86, 026305.	2.1	75
6	Global and local instability of flow focusing: The influence of the geometry. Physics of Fluids, 2010, 22, .	4.0	72
7	A numerical method to study the dynamics of capillary fluid systems. Journal of Computational Physics, 2016, 306, 137-147.	3.8	65
8	Influence of the Surface Viscosity on the Breakup of a Surfactant-Laden Drop. Physical Review Letters, 2017, 118, 024501.	7.8	49
9	Analysis of the drippingâ€"jetting transition in compound capillary jets. Journal of Fluid Mechanics, 2010, 649, 523-536.	3.4	48
10	Bubbling in Unbounded Coflowing Liquids. Physical Review Letters, 2006, 96, 124504.	7.8	45
11	Spatiotemporal instability of a confined capillary jet. Physical Review E, 2008, 78, 046312.	2.1	41
12	Global stability of the focusing effect of fluid jet flows. Physical Review E, 2011, 83, 036309.	2.1	41
13	Viscous Effects on Inertial Drop Formation. Physical Review Letters, 2018, 121, 254501.	7.8	41
14	Dynamical behavior of electrified pendant drops. Physics of Fluids, 2013, 25, .	4.0	40
15	Effect of swirl decay on vortex breakdown in a confined steady axisymmetric flow. Physics of Fluids, 2012, 24, .	4.0	39
16	Modeling infiltration rates in a saturated/unsaturated soil under the free draining condition. Journal of Hydrology, 2014, 515, 10-15.	5.4	38
17	Self-similar breakup of polymeric threads as described by the Oldroyd-B model. Journal of Fluid Mechanics, 2020, 887, .	3.4	35
18	Electrokinetic effects in the breakup of electrified jets: A Volume-Of-Fluid numerical study. International Journal of Multiphase Flow, 2015, 71, 14-22.	3.4	34

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19	The instability nature of the Vogelâ€“Escudier flow. Journal of Fluid Mechanics, 2015, 766, 590-610.	3.4	34
20	The steady cone-jet mode of electrospraying close to the minimum volume stability limit. Journal of Fluid Mechanics, 2018, 857, 142-172.	3.4	34
21	Control of vortex breakdown by temperature gradients. Physics of Fluids, 2003, 15, 3468-3477.	4.0	33
22	The relationship between viscoelasticity and elasticity. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200419.	2.1	31
23	Liquid Capillary Micro/Nanojets in Freeâ€Jet Expansion. Small, 2010, 6, 822-824.	10.0	28
24	Self-similarity in the breakup of very dilute viscoelastic solutions. Journal of Fluid Mechanics, 2020, 904, .	3.4	28
25	Vortex breakdown in compressible flows in pipes. Physics of Fluids, 2003, 15, 2208-2218.	4.0	26
26	Slip at the interface of a two-fluid swirling flow. Physics of Fluids, 2018, 30, .	4.0	26
27	Numerical simulation of a liquid bridge in a coaxial gas flow. Physics of Fluids, 2011, 23, .	4.0	24
28	Vortex breakdown control by adding near-axis swirl and temperature gradients. Physical Review E, 2003, 68, 041202.	2.1	23
29	Patterns of a creeping water-spout flow. Journal of Fluid Mechanics, 2014, 744, 65-88.	3.4	23
30	Vortex breakdown in a water-spout flow. Physics of Fluids, 2013, 25, 093604.	4.0	22
31	Dynamics of an axisymmetric liquid bridge close to the minimum-volume stability limit. Physical Review E, 2014, 90, 013015.	2.1	22
32	Topology changes in a water-oil swirling flow. Physics of Fluids, 2017, 29, 032109.	4.0	22
33	Global stability of axisymmetric flow focusing. Journal of Fluid Mechanics, 2017, 832, 329-344.	3.4	22
34	New features of swirling jets. Physics of Fluids, 2000, 12, 2868.	4.0	21
35	Absolute to convective instability transition in charged liquid jets. Physics of Fluids, 2010, 22, .	4.0	20
36	The effect of surface shear viscosity on the damping of oscillations in millimetric liquid bridges. Physics of Fluids, 2011, 23, .	4.0	20

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37	Hysteretic growth and decay of a waterspout column. Physical Review Fluids, 2018, 3, .	2.5	20
38	StELIUM: A student experiment to investigate the sloshing of magnetic liquids in microgravity. Acta Astronautica, 2020, 173, 344-355.	3.2	19
39	Swirl flow focusing: A novel procedure for the massive production of monodisperse microbubbles. Physics of Fluids, 2009, 21, 042003.	4.0	17
40	Influence of the dynamical free surface deformation on the stability of thermal convection in high-Prandtl-number liquid bridges. International Journal of Heat and Mass Transfer, 2020, 146, 118831.	4.8	17
41	Topology and stability of a water-soybean-oil swirling flow. Physical Review Fluids, 2017, 2, .	2.5	17
42	Stability and tip streaming of a surfactant-loaded drop in an extensional flow. Influence of surface viscosity. Journal of Fluid Mechanics, 2022, 934, .	3.4	17
43	Confined swirling jet impingement on a flat plate at moderate Reynolds numbers. Physics of Fluids, 2009, 21, .	4.0	16
44	Stability of a rivulet flowing in a microchannel. International Journal of Multiphase Flow, 2015, 69, 1-7.	3.4	16
45	Downstream evolution of unconfined vortices: mechanical and thermal aspects. Journal of Fluid Mechanics, 2002, 471, 51-70.	3.4	15
46	On the development of three-dimensional vortex breakdown in cylindrical regions. Physics of Fluids, 2006, 18, 084105.	4.0	15
47	On the validity of a universal solution for viscous capillary jets. Physics of Fluids, 2011, 23, .	4.0	15
48	Theoretical investigation of a technique to produce microbubbles by a microfluidicTjunction. Physical Review E, 2013, 88, 033027.	2.1	15
49	Vortex breakdown in a truncated conical bioreactor. Fluid Dynamics Research, 2015, 47, 065503.	1.3	15
50	Absolute lateral instability in capillary coflowing jets. Physics of Fluids, 2010, 22, 064104.	4.0	14
51	Linear and nonlinear dynamics of an insoluble surfactant-laden liquid bridge. Physics of Fluids, 2016, 28, 112103.	4.0	14
52	Total magnetic force on a ferrofluid droplet in microgravity. Experimental Thermal and Fluid Science, 2020, 117, 110124.	2.7	14
53	Experimental and numerical study of the recirculation flow inside a liquid meniscus focused by air. Microfluidics and Nanofluidics, 2011, 11, 65-74.	2.2	13
54	Enhancement of the stability of the flow focusing technique for low-viscosity liquids. Journal of Micromechanics and Microengineering, 2012, 22, 115039.	2.6	13

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55	A novel technique for producing metallic microjets and microdrops. Microfluidics and Nanofluidics, 2013, 14, 101-111.	2.2	13
56	Production of microbubbles from axisymmetric flow focusing in the jetting regime for moderate Reynolds numbers. Physical Review E, 2014, 89, 063012.	2.1	12
57	Convective-to-absolute instability transition in a viscoelastic capillary jet subject to unrelaxed axial elastic tension. Physical Review E, 2015, 92, 023006.	2.1	12
58	Formation of dual vortex breakdown in a two-fluid confined flow. Physics of Fluids, 2020, 32, .	4.0	12
59	Influence of the surface viscous stress on the pinch-off of free surfaces loaded with nearly-inviscid surfactants. Scientific Reports, 2020, 10, 16065.	3.3	12
60	Instability of a water-spout flow. Physics of Fluids, 2016, 28, 034107.	4.0	11
61	Aerodynamically stabilized Taylor cone jets. Physical Review E, 2019, 100, 031101.	2.1	11
62	A numerical simulation of coaxial electrosprays. Journal of Fluid Mechanics, 2020, 885, .	3.4	11
63	Mechanism of Disappearance of Vortex Breakdown in a Confined Flow. Journal of Engineering Thermophysics, 2020, 29, 49-66.	1.4	11
64	Stability of the boundary layer flow on a long thin rotating cylinder. Physics of Fluids, 2008, 20, .	4.0	10
65	Off-axis vortex breakdown in a shallow whirlpool. Physical Review E, 2013, 87, 063016.	2.1	10
66	Effect of a Surrounding Liquid Environment on the Electrical Disruption of Pendant Droplets. Langmuir, 2016, 32, 6815-6824.	3.5	10
67	Spatial structure of shock formation. Journal of Fluid Mechanics, 2017, 820, 208-231.	3.4	10
68	Controlled cavity collapse: scaling laws of drop formation. Soft Matter, 2018, 14, 7671-7679.	2.7	10
69	Development and validation of the terrain stability model for assessing landslide instability during heavy rain infiltration. Natural Hazards and Earth System Sciences, 2019, 19, 721-736.	3.6	10
70	Global stability analysis of axisymmetric liquidâ€"liquid flow focusing. Journal of Fluid Mechanics, 2021, 909, .	3.4	10
71	Complex behavior very close to the pinching of a liquid free surface. Physical Review Fluids, 2019, 4, .	2.5	10
72	Nonparallel local spatial stability analysis of pipe entrance swirling flows. Physics of Fluids, 2004, 16, 2147-2153.	4.0	9

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73	Development of a swirling double counterflow. Physical Review E, 2011, 83, 056322.	2.1	9
74	Generation of small mono-disperse bubbles in axisymmetric T-junction: The role of swirl. Physics of Fluids, 2011, 23, .	4.0	9
75	Development of colliding swirling counterflows. Physical Review E, 2011, 84, 046306.	2.1	9
76	Stabilization of axisymmetric liquid bridges through vibration-induced pressure fields. Journal of Colloid and Interface Science, 2018, 513, 409-417.	9.4	9
77	Whipping in gaseous flow focusing. International Journal of Multiphase Flow, 2020, 130, 103367.	3.4	9
78	Dynamical response of liquid bridges to a step change in the mass force magnitude. Physics of Fluids, 2014, 26, 012108.	4.0	8
79	How does a shear boundary layer affect the stability of a capillary jet?. Physics of Fluids, 2014, 26, .	4.0	8
80	Patterns of a slow airâ€“water flow in a semispherical container. European Journal of Mechanics, B/Fluids, 2016, 58, 1-8.	2.5	8
81	Effect of an axial electric field on the breakup of a leaky-dielectric liquid filament. Physics of Fluids, 2021, 33, .	4.0	8
82	Self-rotation in electrocapillary flows. Physical Review E, 2002, 66, 036311.	2.1	7
83	Air-water centrifugal convection. Physics of Fluids, 2014, 26, .	4.0	7
84	Stability of centrifugal convection in a rotating pipe. Physics of Fluids, 2015, 27, .	4.0	7
85	Analysis of a resonance liquid bridge oscillation on board of the International Space Station. European Journal of Mechanics, B/Fluids, 2016, 57, 15-21.	2.5	7
86	Axisymmetric Ferrofluid Oscillations in a Cylindrical Tank in Microgravity. Microgravity Science and Technology, 2021, 33, 1.	1.4	7
87	Elastic Rayleighâ€“Plateau instability: dynamical selection of nonlinear states. Soft Matter, 2021, 17, 5148-5161.	2.7	7
88	Patterns and stability of a whirlpool flow. Fluid Dynamics Research, 2017, 49, 025519.	1.3	6
89	Breakup of an electrified viscoelastic liquid bridge. Physical Review E, 2020, 102, 033103.	2.1	6
90	The Natural Breakup Length of a Steady Capillary Jet: Application to Serial Femtosecond Crystallography. Crystals, 2021, 11, 990.	2.2	6

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91	Thermal separation in near-axis boundary layers with intense swirl. Physics of Fluids, 1999, 11, 3678-3687.	4.0	5
92	Isothermal dissolution of small rising bubbles in a low viscosity liquid. Chemical Engineering and Processing: Process Intensification, 2014, 85, 136-144.	3.6	5
93	Velocity reversals via bifurcation in thermal convection. International Journal of Heat and Mass Transfer, 2016, 92, 66-75.	4.8	5
94	On the hydrodynamic focusing for producing microemulsions via tip streaming. Journal of Fluid Mechanics, 2022, 934, .	3.4	5
95	Experimental analysis of the evolution of an electrified drop following high voltage switching. European Journal of Mechanics, B/Fluids, 2013, 38, 58-64.	2.5	4
96	Stability of thermal convection in a rotating cylindrical container. Physics of Fluids, 2016, 28, 083601.	4.0	4
97	Bifurcations of a creeping airâ€"water flow in a conical container. Theoretical and Computational Fluid Dynamics, 2016, 30, 485-496.	2.2	4
98	On the validity of the Jeffreys (Oldroyd-B) model to describe the oscillations of a viscoelastic pendant drop. Journal of Non-Newtonian Fluid Mechanics, 2018, 260, 69-75.	2.4	4
99	Electrospray cone-jet mode for weakly viscoelastic liquids. Physical Review E, 2019, 100, 043114.	2.1	4
100	Stability of a jet moving in a rectangular microchannel. Physical Review E, 2019, 100, 053104.	2.1	4
101	Two-cell circulation in a liquid meniscus driven by a swirling gas jet. Physics of Fluids, 2011, 23, 012003.	4.0	3
102	On the validity and applicability of the one-dimensional approximation in cone-jet electrospray. Journal of Aerosol Science, 2013, 61, 60-69.	3.8	3
103	Novel swirl flow-focusing microfluidic device for the production of monodisperse microbubbles. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	3
104	Motion of a tightly fitting axisymmetric object through a lubricated elastic tube. Journal of Fluid Mechanics, 2021, 926, .	3.4	3
105	Nonparallel linear stability analysis of unconfined vortices. Physics of Fluids, 2004, 16, 3755-3764.	4.0	2
106	An experimental technique to produce micrometer waves on a cylindrical sub-millimeter free surface. Measurement Science and Technology, 2014, 25, 075303.	2.6	2
107	Regular and complex singularities of the generalized thin film equation in two dimensions. Journal of Fluid Mechanics, 2021, 917, .	3.4	2
108	Global stability analysis of flexible channel flow with a hyperelastic wall. Journal of Fluid Mechanics, 2022, 934, .	3.4	2

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109	Mean flow produced by small-amplitude vibrations of a liquid bridge with its free surface covered with an insoluble surfactant. Physical Review E, 2017, 96, 033101.	2.1	1
110	Cavity losses estimation in CSP applications. AIP Conference Proceedings, 2018, , .	0.4	1
111	A method for measuring the interfacial tension for density-matched liquids. Journal of Colloid and Interface Science, 2020, 566, 90-97.	9.4	1
112	Symmetry breaking of a parallel two-phase flow in a finite length channel. Physical Review Fluids, 2022, 7, .	2.5	1
113	Publisherâ€™s Note: Development of a swirling double counterflow [Phys. Rev. E83, 056322 (2011)]. Physical Review E, 2011, 83, .	2.1	0
114	Stability of an airâ€“water flow in a semispherical container. European Journal of Mechanics, B/Fluids, 2018, 67, 377-384.	2.5	0
115	Column formation and hysteresis in a two-fluid tornado. Journal of Physics: Conference Series, 2018, 980, 012008.	0.4	0
116	Surface Wave Damping. Understanding Complex Systems, 2013, , 349-361.	0.6	0
117	Formation of Multiple Vortices in a Confined Two-Fluid Swirling Flow. Journal of Engineering Thermophysics, 2021, 30, 636-645.	1.4	0