Jose M Montanero

List of Publications by Year
in descending order

156 papers	3,589 citations	117625 34 h-index	175258 52 g-index
159 all docs	159 docs citations	159 times ranked	1978 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	Computer simulation of uniformly heated granular fluids. Granular Matter, 2000, 2, 53-64.	2.2	155
3	Revision of capillary cone-jet physics: Electrospray and flow focusing. Physical Review E, 2009, 79, 066305.	2.1	144
4	Building functional materials for health care and pharmacy from microfluidic principles and Flow Focusing. Advanced Drug Delivery Reviews, 2013, 65, 1447-1469.	13.7	96
5	Dripping, jetting and tip streaming. Reports on Progress in Physics, 2020, 83, 097001.	20.1	91
6	Kinetic theory of simple granular shear flows of smooth hard spheres. Journal of Fluid Mechanics, 1999, 389, 391-411.	3.4	83
7	Transport coefficients of a heated granular gas. Physica A: Statistical Mechanics and Its Applications, 2002, 313, 336-356.	2.6	83
8	Monte Carlo simulation method for the Enskog equation. Physical Review E, 1996, 54, 438-444.	2.1	79
9	Monte Carlo simulation of the homogeneous cooling state for a granular mixture. Granular Matter, 2002, 4, 17-24.	2.2	78
10	Numerical simulation of electrospray in the cone-jet mode. Physical Review E, 2012, 86, 026305.	2.1	75
11	Global and local instability of flow focusing: The influence of the geometry. Physics of Fluids, 2010, 22, .	4.0	72
12	The minimum or natural rate of flow and droplet size ejected by Taylor coneâ€“jets: physical symmetries and scaling laws. New Journal of Physics, 2013, 15, 033035.	2.9	71
13	Determination of Surface Tension and Contact Angle from the Shapes of Axisymmetric Fluid Interfaces without Use of Apex Coordinates. Langmuir, 2006, 22, 10053-10060.	3.5	69
14	A numerical method to study the dynamics of capillary fluid systems. Journal of Computational Physics, 2016, 306, 137-147.	3.8	65
15	Kinetic model for the hard-sphere fluid and solid. Physical Review E, 1998, 57, 1644-1660.	2.1	60
16	The onset of electrospray: the universal scaling laws of the first ejection. Scientific Reports, 2016, 6, 32357.	3.3	58
17	Modified Sonine approximation for the Navierâ€“Stokes transport coefficients of a granular gas. Physica A: Statistical Mechanics and Its Applications, 2007, 376, 94-107.	2.6	57
18	Measurement of relaxation times in extensional flow of weakly viscoelastic polymer solutions. Rheologica Acta, 2017, 56, 11-20.	2.4	57

#	Article	IF	Citations
19	A new method of image processing in the analysis of axisymmetric drop shapes. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 255, 193-200.	4.7	53
20	Experimental study of the free surface deformation due to thermal convection in liquid bridges. Experiments in Fluids, 2008, 45, 1087.	2.4	52
21	Influence of the Surface Viscosity on the Breakup of a Surfactant-Laden Drop. Physical Review Letters, 2017, 118, 024501.	7.8	49
22	Analysis of the drippingâ€"jetting transition in compound capillary jets. Journal of Fluid Mechanics, 2010, 649, 523-536.	3.4	48
23	Diffusion of impurities in a granular gas. Physical Review E, 2004, 69, 021301.	2.1	44
24	Global stability of the focusing effect of fluid jet flows. Physical Review E, 2011, 83, 036309.	2.1	41
25	Dynamical behavior of electrified pendant drops. Physics of Fluids, 2013, 25, .	4.0	40
26	Shear viscosity for a heated granular binary mixture at low density. Physical Review E, 2003, 67, 021308.	2.1	38
27	An experimental analysis of the linear vibration of axisymmetric liquid bridges. Physics of Fluids, 2006, 18, 082105.	4.0	38
28	Modeling infiltration rates in a saturated/unsaturated soil under the free draining condition. Journal of Hydrology, 2014, 515, 10-15.	5.4	38
29	Mass and heat fluxes for a binary granular mixture at low density. Physics of Fluids, 2006, 18, 083305.	4.0	37
30	An analysis of the sensitivity of pendant drops and liquid bridges to measure the interfacial tension. Measurement Science and Technology, 2007, 18, 3713-3723.	2.6	37
31	A new drop-shape methodology for surface tension measurement. Applied Surface Science, 2004, 238, 480-484.	6.1	36
32	Shear viscosity for a moderately dense granular binary mixture. Physical Review E, 2003, 68, 041302.	2.1	35
33	Review on the Dynamics of Isothermal Liquid Bridges. Applied Mechanics Reviews, 2020, 72, .	10.1	35
34	Rheological properties in a low-density granular mixture. Physica A: Statistical Mechanics and Its Applications, 2002, 310, 17-38.	2.6	34
35	The second and third Sonine coefficients of a freely cooling granular gas revisited. Granular Matter, 2009, 11, 157-168.	2.2	34
36	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

#	Article	IF	Citations
37	Monte Carlo simulation of the Boltzmann equation for steady Fourier flow. Physical Review E, 1994, 49, 367-375.	2.1	32
38	Navierâ€“Stokes Transport Coefficients of d-Dimensional Granular Binary Mixtures at Low Density. Journal of Statistical Physics, 2007, 129, 27-58.	1.2	31
39	Focusing liquid microjets with nozzles. Journal of Micromechanics and Microengineering, 2012, 22, 065011.	2.6	31
40	Nonlinear Couette Flow in a Low Density Granular Gas. Journal of Statistical Physics, 2001, 103, 1035-1068.	1.2	30
41	Theoretical and experimental analysis of the equilibrium contours of liquid bridges of arbitrary shape. Physics of Fluids, 2002, 14, 682-693.	4.0	30
42	Rheology of Two- and Three-dimensional Granular Mixtures Under Uniform Shear Flow: Enskog Kinetic Theory Versus Molecular Dynamics Simulations. Granular Matter, 2006, 8, 103-115.	2.2	28
43	A new experimental technique for measuring the dynamical free surface deformation in liquid bridges due to thermal convection. Measurement Science and Technology, 2008, 19, 015410.	2.6	27
44	Universal size and shape of viscous capillary jets: application to gas-focused microjets. Journal of Fluid Mechanics, 2011, 670, 427-438.	3.4	27
45	Exploring the precision of backlight optical imaging in microfluidics close to the diffraction limit. Measurement: Journal of the International Measurement Confederation, 2011, 44, 1300-1311.	5.0	27
46	A new flow focusing technique to produce very thin jets. Journal of Micromechanics and Microengineering, 2013, 23, 065009.	2.6	26
47	Numerical simulation of a liquid bridge in a coaxial gas flow. Physics of Fluids, 2011, 23, .	4.0	24
48	Modified Sonine approximation for granular binary mixtures. Journal of Fluid Mechanics, 2009, 623, 387-411.	3.4	22
49	Micrometer glass nozzles for flow focusing. Journal of Micromechanics and Microengineering, 2010, 20, 075035.	2.6	22
50	Dynamics of an axisymmetric liquid bridge close to the minimum-volume stability limit. Physical Review E, 2014, 90, 013015.	2.1	22
51	A novel technique to produce metallic microdrops for additive manufacturing. International Journal of Advanced Manufacturing Technology, 2014, 70, 1395-1402.	3.0	22
52	Global stability of axisymmetric flow focusing. Journal of Fluid Mechanics, 2017, 832, 329-344.	3.4	22
53	Monosized dripping mode of axisymmetric flow focusing. Physical Review E, 2016, 94, 053122.	2.1	21
54	The effect of surface shear viscosity on the damping of oscillations in millimetric liquid bridges. Physics of Fluids, 2011, 23, .	4.0	20

#	Article	IF	Citations
55	On the precision of optical imaging to study free surface dynamics at high frame rates. Experiments in Fluids, 2009, 47, 251-261.	2.4	19
56	Linear dynamics of axisymmetric liquid bridges. European Journal of Mechanics, B/Fluids, 2003, 22, 167-178.	2.5	18
57	Energy Nonequipartition in a Sheared Granular Mixture. Molecular Simulation, 2003, 29, 357-362.	2.0	18
58	First-order Chapmanâ€"Enskog velocity distribution function in a granular gas. Physica A: Statistical Mechanics and Its Applications, 2007, 376, 75-93.	2.6	18
59	Monte Carlo simulation of nonlinear Couette flow in a dilute gas. Physics of Fluids, 2000, 12, 3060.	4.0	17
60	Viscoelastic effects on the jettingâ€"dripping transition in co-flowing capillary jets. Journal of Fluid Mechanics, 2008, 610, 249-260.	3.4	17
61	Damping of linear oscillations in axisymmetric liquid bridges. Physics of Fluids, 2009, 21, .	4.0	17
62	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
63	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
64	DSMC evaluation of the Navier-Stokes shear viscosity of a granular fluid. AIP Conference Proceedings, 2005, , .	0.4	16
65	Stability of a rivulet flowing in a microchannel. International Journal of Multiphase Flow, 2015, 69, 1-7.	3.4	16
66	Computational simulation of aqueous humour dynamics in the presence of a posterior-chamber versus iris-fixed phakic intraocular lens. PLoS ONE, 2018, 13, e0202128.	2.5	16
67	On the validity of a universal solution for viscous capillary jets. Physics of Fluids, 2011, 23, .	4.0	15
68	Theoretical investigation of a technique to produce microbubbles by a microfluidicTjunction. Physical Review E, 2013, 88, 033027.	2.1	15
69	Effects of surface-active impurities on the liquid bridge dynamics. Experiments in Fluids, 2016, 57, 1.	2.4	15
70	Monte Carlo simulation of the Boltzmann equation for uniform shear flow. Physics of Fluids, 1996, 8, 1981-1983.	4.0	14
71	Liquid bridge equilibrium contours between non-circular supports. Microgravity Science and Technology, 2005, 17, 18-30.	1.4	14
72	Absolute lateral instability in capillary coflowing jets. Physics of Fluids, 2010, 22, 064104.	4.0	14

#	Article	IF	Citations
73	Linear and nonlinear dynamics of an insoluble surfactant-laden liquid bridge. Physics of Fluids, 2016, 28, 112103.	4.0	14
74	Diameter and charge of the first droplet emitted in electrospray. Physics of Fluids, 2021, 33, .	4.0	14
75	Long Wavelength Instability for Uniform Shear Flow. Physical Review Letters, 1996, 76, 2702-2705.	7.8	13
76	Nonlinear Couette flow in a dilute gas:â€‚Comparison between theory and molecular-dynamics simulation. Physical Review E, 1998, 58, 1836-1842.	2.1	13
77	Enhancement of the stability of the flow focusing technique for low-viscosity liquids. Journal of Micromechanics and Microengineering, 2012, 22, 115039.	2.6	13
78	A novel technique for producing metallic microjets and microdrops. Microfluidics and Nanofluidics, 2013, 14, 101-111.	2.2	13
79	The production of viscoelastic capillary jets with gaseous flow focusing. Journal of Non-Newtonian Fluid Mechanics, 2016, 229, 8-15.	2.4	13
80	Computational evaluation of the theoretical image fitting analysisâ€"axisymmetric interfaces (TIFA-AI) method of measuring interfacial tension. Measurement Science and Technology, 2007, 18, 1637-1650.	2.6	12
81	Production of microbubbles from axisymmetric flow focusing in the jetting regime for moderate Reynolds numbers. Physical Review E, 2014, 89, 063012.	2.1	12
82	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
83	Numerical analysis of the pressure drop across highly-eccentric coronary stenoses: application to the calculation of the fractional flow reserve. BioMedical Engineering OnLine, 2018, 17, 67.	2.7	12
84	Gaseous flow focusing for spinning micro and nanofibers. Polymer, 2019, 178, 121623.	3.8	12
85	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
86	Numerical model to predict and compare the hypotensive efficacy and safety of minimally invasive glaucoma surgery devices. PLoS ONE, 2020, 15, e0239324.	2.5	12
87	Nonequilibrium entropy of a sheared gas. Physica A: Statistical Mechanics and Its Applications, 1996, 225, 7-18.	2.6	11
88	Singular behavior of the velocity moments of a dilute gas under uniform shear flow. Physical Review E, 1996, 53, 1269-1272.	2.1	11
89	Effect of energy nonequipartition on the transport properties in a granular mixture. Granular Matter, 2003, 5, 165-168.	2.2	10
90	Experimental study of small-amplitude lateral vibrations of an axisymmetric liquid bridge. Physics of Fluids, 2007, 19, 118103.	4.0	10

#	Article	IF	Citations
91	Stability of coflowing capillary jets under nonaxisymmetric perturbations. Physical Review E, 2008, 77, 046301.	2.1	10
92	Smooth printing of viscoelastic microfilms with a flow focusing ejector. Journal of Non-Newtonian Fluid Mechanics, 2017, 249, 1-7.	2.4	10
93	Global stability analysis of axisymmetric liquidâ€"liquid flow focusing. Journal of Fluid Mechanics, 2021, 909, .	3.4	10
94	Complex behavior very close to the pinching of a liquid free surface. Physical Review Fluids, 2019, 4, .	2.5	10
95	Kinetic models for diffusion generated by an external force. Physica A: Statistical Mechanics and Its Applications, 1996, 225, 235-253.	2.6	9
96	Stability of uniform shear flow. Physical Review E, 1998, 57, 546-556.	2.1	9
97	Theoretical Analysis of the Vibration of Axisymmetric Liquid Bridges of Arbitrary Shape. Theoretical and Computational Fluid Dynamics, 2003, 16, 171-186.	2.2	9
98	A simple model to describe the lateral oscillations of axisymmetric liquid bridges. Physics of Fluids, 2008, 20, 022103.	4.0	9
99	Stability of Liquid Bridges Between Coaxial Equidimensional Disks to Axisymmetric Finite Perturbations: A Review. Microgravity Science and Technology, 2012, 24, 65-77.	1.4	9
100	Numerical and experimental analysis of the transitional flow across a real stenosis. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1447-1458.	2.8	9
101	Stabilization of axisymmetric liquid bridges through vibration-induced pressure fields. Journal of Colloid and Interface Science, 2018, 513, 409-417.	9.4	9
102	Whipping in gaseous flow focusing. International Journal of Multiphase Flow, 2020, 130, 103367.	3.4	9
103	Strong shock waves in a dense gas: Burnett theory versus Monte Carlo simulation. Physical Review E, 1998, 58, 7319-7324.	2.1	8
104	Simple and accurate theory for strong shock waves in a dense hard-sphere fluid. Physical Review E, 1999, 60, 7592-7595.	2.1	8
105	Sub-micrometer precision of optical imaging to locate the free surface of a micrometer fluid shape. Journal of Colloid and Interface Science, 2009, 339, 271-274.	9.4	8
106	Dynamical response of liquid bridges to a step change in the mass force magnitude. Physics of Fluids, 2014, 26, 012108.	4.0	8
107	How does a shear boundary layer affect the stability of a capillary jet?. Physics of Fluids, 2014, 26, .	4.0	8
108	Effect of an axial electric field on the breakup of a leaky-dielectric liquid filament. Physics of Fluids, 2021, 33, .	4.0	8

#	ARTICLE	IF	CITATIONS
109	Detection of liquid bridge contours and its applications. Measurement Science and Technology, 2002, 13, 829-835.	2.6	7
110	On the experimental analysis of the linear dynamics of slender axisymmetric liquid bridges. Microgravity Science and Technology, 2004, 15, 3-11.	1.4	7
111	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
112	Experimental Analysis of the Extensional Flow of Very Weakly Viscoelastic Polymer Solutions. Materials, 2020, 13, 192.	2.9	7
113	Distribution function for large velocities of a two-dimensional gas under shear flow. Journal of Statistical Physics, 1997, 88, 1165-1181.	1.2	6
114	Equilibrium contour of liquid bridges connected by pressure. Microgravity Science and Technology, 2002, 13, 14-23.	1.4	6
115	Influence of isorotation on the linear dynamics of liquid bridges. Physics of Fluids, 2005, 17, 078105.	4.0	6
116	Breakup of an electrified viscoelastic liquid bridge. Physical Review E, 2020, 102, 033103.	2.1	6
117	The Natural Breakup Length of a Steady Capillary Jet: Application to Serial Femtosecond Crystallography. Crystals, 2021, 11, 990.	2.2	6
118	Monte Carlo simulation of the Boltzmann equation in the colour conductivity problem for general repulsive potentials. Molecular Physics, 1996, 88, 1249-1261.	1.7	5
119	A note on the use of one-dimensional models to describe the linear dynamics of liquid bridges. European Journal of Mechanics, B/Fluids, 2005, 24, 288-295.	2.5	5
120	Viscoelastic liquid bridge breakup and liquid transfer between two surfaces. Journal of Colloid and Interface Science, 2021, 582, 1251-1256.	9.4	5
121	On the hydrodynamic focusing for producing microemulsions via tip streaming. Journal of Fluid Mechanics, 2022, 934, .	3.4	5
122	A note on the small oscillation regimes of rotating liquid bridges: Transition from surface to internal wave modes. Physics of Fluids, 2005, 17, 012101-012101-6.	4.0	4
123	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
124	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
125	Electrospray cone-jet mode for weakly viscoelastic liquids. Physical Review E, 2019, 100, 043114.	2.1	4
126	Stability of a jet moving in a rectangular microchannel. Physical Review E, 2019, 100, 053104.	2.1	4

#	ARTICLE	IF	CITATIONS
127	Self-similar electrohydrodynamic solutions in multiple coaxial Taylor cones. Journal of Fluid Mechanics, 2021, 915, .	3.4	4
128	Unexpected stability of micrometer weakly viscoelastic jets. Physics of Fluids, 2022, 34, .	4.0	4
129	Does the Gaussian thermostat maximize the phase-space compression factor?. Journal of Statistical Physics, 1995, 81, 989-1005.	1.2	3
130	Publisher's Note: Revision of capillary cone-jet physics: Electrospray and flow focusing [Phys. Rev. E79, 066305 (2009)]. Physical Review E, 2009, 79, .	2.1	3
131	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
132	A hybrid flow focusing nozzle design to produce micron and sub-micron capillary jets. International Journal of Mass Spectrometry, 2016, 403, 32-38.	1.5	3
133	Influence of an iris-fixed phakic intraocular lens on the transport of nutrients by the aqueous humor. Biomechanics and Modeling in Mechanobiology, 2019, 18, 491-502.	2.8	3
134	Transonic flow focusing: stability analysis and jet diameter. International Journal of Multiphase Flow, 2021, 142, 103720.	3.4	3
135	Viscoelastic transition in transonic flow focusing. Physical Review Fluids, 2022, 7, .	2.5	3
136	Analysis on the stability of the uniform shear flow from a Monte Carlo simulation of the Boltzmann equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 203, 73-76.	2.1	2
137	Influence of the Outer Bath on the Eigenfrequencies of Rotating Axisymmetric Liquid Bridges. Theoretical and Computational Fluid Dynamics, 2004, 17, 213-223.	2.2	2
138	Numerical analysis of the nonlinear vibration of axisymmetric liquid bridges. European Journal of Mechanics, B/Fluids, 2007, 26, 284-294.	2.5	2
139	Measurement of the dynamical free surface deformation in liquid bridges. Acta Astronautica, 2008, 62, 471-477.	3.2	2
140	On the use of hypodermic needles in electrospray. EPJ Web of Conferences, 2013, 45, 01128.	0.3	2
141	An experimental technique to produce micrometer waves on a cylindrical sub-millimeter free surface. Measurement Science and Technology, 2014, 25, 075303.	2.6	2
142	Magnetic PDMS Microparticles for Biomedical and Energy Applications. Lecture Notes in Computational Vision and Biomechanics, 2019, , 578-584.	0.5	2
143	On the use of liquid bridges as tensiometers. Journal of Computational Methods in Sciences and Engineering, 2004, 4, 75-85.	0.2	1
144	An experimental setup for the study of the steady air flow in a diesel engine chamber. EPJ Web of Conferences, 2012, 25, 01014.	0.3	1

#	Article	IF	Citations
145	Theoretical and Experimental Analysis of the Steady Flow Across the Cylinderhead of a Low-Capacity Engine. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	2.2	1
146	Influence of the manufacturing process tolerance on the swirl number of a low-capacity engine. Journal of Manufacturing Systems, 2016, 41, 157-164.	13.9	1
147	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
148	Electrical Conductivity of a Stretching Viscoelastic Filament. Materials, 2021, 14, 1294.	2.9	1
149	Analytical model for managing hypotony after implantation surgery of a glaucoma drainage device. Biomechanics and Modeling in Mechanobiology, 2021, 20, 2061-2070.	2.8	1
150	A method for measuring the interfacial tension for density-matched liquids. Journal of Colloid and Interface Science, 2020, 566, 90-97.	9.4	1
151	Measurements of Dynamic Surface Deformation in Liquid Bridges. , 2006, , .		0
152	Experimental and Numerical Investigation of the Flow in a Micropump Model. , 2012, , .		0
153	An experimental technique to measure the capillary waves in electrified microjets. EPJ Web of Conferences, 2012, 25, 01097.	0.3	0
154	Image Quality Enhancement for Liquid Bridge Parameter Estimation with DTCNN. Lecture Notes in Computer Science, 2001, , 246-253.	1.3	0
155	Surface Wave Damping. Understanding Complex Systems, 2013, , 349-361.	0.6	0
156	Applicability of near-field electrospinning for the development of TCP-based thin fibres and scaffold 3D printing. Boletin De La Sociedad Espanola De Ceramica Y Vidrio, 2022, , .	1.9	0