

Emmanuel Villermaux

List of Publications by Year in descending order

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Version: 2024-02-01

100
papers

7,594
citations

76326

40
h-index

51608

86
g-index

102
all docs

102
docs citations

102
times ranked

5076
citing authors

#	ARTICLE	IF	CITATIONS
1	Submicron drops from flapping bursting bubbles. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	29
2	Chemical production on a deforming substrate. Journal of Fluid Mechanics, 2022, 934, .	3.4	3
3	Equilibrated crater: fragmentation and mixing. Journal of Fluid Mechanics, 2022, 942, .	3.4	1
4	Mode Coarsening or Fracture: Energy Transfer Mechanisms in Dynamic Buckling of Rods. Physical Review Letters, 2021, 126, 045501.	7.8	8
5	Laboratory model for plastic fragmentation in the turbulent ocean. Physical Review Fluids, 2021, 6, .	2.5	18
6	Chemical reactions rectify mixtures composition. Physical Review Fluids, 2021, 6, .	2.5	7
7	Chemical reaction for mixing studies. Physical Review Fluids, 2021, 6, .	2.5	12
8	Architecture of a self-fragmenting droplets cascade. Physical Review E, 2021, 104, L053101.	2.1	0
9	Double threshold behavior for breakup of liquid sheets. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18912-18914.	7.1	12
10	“Fines” from the collision of liquid rims “ ERRATUM. Journal of Fluid Mechanics, 2020, 894, .	3.4	0
11	Fragmentation versus Cohesion. Journal of Fluid Mechanics, 2020, 898, .	3.4	74
12	Drop fragmentation by laser-pulse impact. Journal of Fluid Mechanics, 2020, 893, .	3.4	30
13	“Fines” from the collision of liquid rims. Journal of Fluid Mechanics, 2020, 893, .	3.4	10
14	A brittle material with tunable elasticity: Crêpe paper. Comptes Rendus - Mecanique, 2019, 347, 382-388.	2.1	2
15	Mixing Versus Stirring. Annual Review of Fluid Mechanics, 2019, 51, 245-273.	25.0	96
16	Comparison of Lagrangian and Eulerian frames of passive scalar turbulent mixing. Physical Review Fluids, 2019, 4, .	2.5	7
17	The diffusive sheet method for scalar mixing. Journal of Fluid Mechanics, 2018, 837, 230-257.	3.4	11
18	The spontaneous puncture of thick liquid films. Journal of Fluid Mechanics, 2018, 838, 192-221.	3.4	47

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19	On shapes and forms: Population balance dynamics of corrugated stirred fronts. Comptes Rendus Physique, 2018, 19, 306-315.	0.9	2
20	Interface dynamics, pole trajectories, and cell size statistics. Physical Review E, 2018, 98, .	2.1	10
21	Ageing and burst of surface bubbles. Journal of Fluid Mechanics, 2018, 851, 636-671.	3.4	84
22	Controlling fracture cascades through twisting and quenching. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8665-8670.	7.1	16
23	Scalar gradients in stirred mixtures and the deconstruction of random fields. Journal of Fluid Mechanics, 2017, 812, 578-610.	3.4	18
24	Stretching and mixing in sheared particulate suspensions. Journal of Fluid Mechanics, 2017, 812, 611-635.	3.4	18
25	Direct Self-Sustained Fragmentation Cascade of Reactive Droplets. Physical Review Letters, 2017, 118, 074502.	7.8	15
26	Self-activated fragmentation. International Journal of Fracture, 2017, 206, 171-193.	2.2	5
27	Capillary jet breakup by noise amplification. Journal of Fluid Mechanics, 2017, 810, 281-306.	3.4	13
28	Fine structure of the vapor field in evaporating dense sprays. Physical Review Fluids, 2017, 2, .	2.5	24
29	Scalar mixtures in porous media. Physical Review Fluids, 2017, 2, .	2.5	14
30	Explosive fragmentation of liquid shells. Journal of Fluid Mechanics, 2016, 788, 246-273.	3.4	22
31	Drop deformation by laser-pulse impact. Journal of Fluid Mechanics, 2016, 794, 676-699.	3.4	51
32	Fragmentation as an aggregation process: the role of defects. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150679.	2.1	5
33	Dense spray evaporation as a mixing process. Physical Review Fluids, 2016, 1, .	2.5	25
34	Node dynamics and cusps size distribution at the border of liquid sheets. Physical Review Fluids, 2016, 1, .	2.5	5
35	Drop Shaping by Laser-Pulse Impact. Physical Review Applied, 2015, 3, .	3.8	76
36	Luminescence from Collapsing Centimeter Bubbles Expanded by Chemical Reaction. Physical Review Letters, 2015, 115, 094501.	7.8	10

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37	Fragmentation as an aggregation process. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150678.	2.1	10
38	Self-similar impulsive capillary waves on a ligament. Physics of Fluids, 2015, 27, .	4.0	4
39	The lamellar description of mixing in porous media. Journal of Fluid Mechanics, 2015, 770, 458-498.	3.4	96
40	Odor Landscapes in Turbulent Environments. Physical Review X, 2014, 4, .	8.9	93
41	On the cusps bordering liquid sheets. Journal of Fluid Mechanics, 2014, 754, .	3.4	19
42	Chaotic advection at large Péclet number: Electromagnetically driven experiments, numerical simulations, and theoretical predictions. Physics of Fluids, 2014, 26, .	4.0	16
43	The viscous Savart sheet. Journal of Fluid Mechanics, 2013, 730, 607-625.	3.4	31
44	Geometry and fragmentation of soft brittle impacted bodies. Soft Matter, 2013, 9, 8162.	2.7	25
45	Effervescent atomization in two dimensions. Journal of Fluid Mechanics, 2013, 714, 361-392.	3.4	32
46	Superdiffusive trajectories in Brownian motion. Physical Review E, 2013, 87, 020105.	2.1	23
47	Stretching, Coalescence, and Mixing in Porous Media. Physical Review Letters, 2013, 110, 204501.	7.8	117
48	Bursting bubble aerosols. Journal of Fluid Mechanics, 2012, 696, 5-44.	3.4	229
49	Crumpled water bells. Journal of Fluid Mechanics, 2012, 693, 508-540.	3.4	14
50	On Dissipation in Stirred Mixtures. Advances in Applied Mechanics, 2012, 45, 91-107.	2.3	17
51	The formation of filamentary structures from molten silicates: Pele's hair, angel hair, and blown clinker. Comptes Rendus - Mecanique, 2012, 340, 555-564.	2.1	28
52	Mixing by porous media. Comptes Rendus - Mecanique, 2012, 340, 933-943.	2.1	46
53	The distribution of raindrops speeds. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	18
54	On two-dimensional foam ageing. Journal of Fluid Mechanics, 2011, 673, 147-179.	3.4	21

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55	Drop fragmentation on impact. <i>Journal of Fluid Mechanics</i> , 2011, 668, 412-435.	3.4	163
56	The destabilization of an initially thick liquid sheet edge. <i>Physics of Fluids</i> , 2011, 23, .	4.0	21
57	The diffusive strip method for scalar mixing in two dimensions. <i>Journal of Fluid Mechanics</i> , 2010, 662, 134-172.	3.4	58
58	Size distribution of raindrops. <i>Nature Physics</i> , 2010, 6, 232-232.	16.7	14
59	Entanglement Rules for Random Mixtures. <i>Physical Review Letters</i> , 2010, 105, 034504.	7.8	12
60	On random search: Collection kinetics of <i>Paramecia</i> into a trap embedded in a closed domain. <i>American Journal of Physics</i> , 2010, 78, 574-579.	0.7	1
61	Radial Cracks in Perforated Thin Sheets. <i>Physical Review Letters</i> , 2010, 104, 175502.	7.8	30
62	Soap Films Burst Like Flapping Flags. <i>Physical Review Letters</i> , 2009, 103, 054501.	7.8	43
63	Impacts on thin elastic sheets. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2009, 465, 823-842.	2.1	21
64	Single-drop fragmentation determines size distribution of raindrops. <i>Nature Physics</i> , 2009, 5, 697-702.	16.7	292
65	Destabilization of flapping sheets: The surprising analogue of soap films. <i>Comptes Rendus - Mecanique</i> , 2009, 337, 469-480.	2.1	15
66	Hesitant Nature. <i>Journal of Fluid Mechanics</i> , 2009, 636, 1-4.	3.4	2
67	Physics of liquid jets. <i>Reports on Progress in Physics</i> , 2008, 71, 036601.	20.1	1,384
68	Bridging kinematics and concentration content in a chaotic micromixer. <i>Physical Review E</i> , 2008, 77, 015301.	2.1	45
69	Mixing by random stirring in confined mixtures. <i>Journal of Fluid Mechanics</i> , 2008, 617, 51-86.	3.4	71
70	Fragmentation. <i>Annual Review of Fluid Mechanics</i> , 2007, 39, 419-446.	25.0	320
71	Atomization of undulating liquid sheets. <i>Journal of Fluid Mechanics</i> , 2007, 585, 421-456.	3.4	86
72	Short-term dynamics of a density interface following an impact. <i>Journal of Fluid Mechanics</i> , 2007, 577, 241-250.	3.4	94

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73	Rubber band recoil. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 641-658.	2.1	21
74	â€˜Infotaxisâ€™™ as a strategy for searching without gradients. Nature, 2007, 445, 406-409.	27.8	653
75	Two hundred years of capillarity research. Physics Today, 2006, 59, 39-44.	0.3	65
76	Coarse Grained Scale of Turbulent Mixtures. Physical Review Letters, 2006, 97, 144506.	7.8	25
77	Atomization by jet impact. Journal of Fluid Mechanics, 2006, 549, 273.	3.4	156
78	Bursting thin liquid films. Journal of Fluid Mechanics, 2005, 524, 121-130.	3.4	56
79	Dynamic Buckling and Fragmentation in Brittle Rods. Physical Review Letters, 2005, 94, 035503.	7.8	75
80	Ligament-Mediated Spray Formation. Physical Review Letters, 2004, 92, 074501.	7.8	128
81	On spray formation. Journal of Fluid Mechanics, 2004, 498, 73-111.	3.4	537
82	Fragmentation of stretched liquid ligaments. Physics of Fluids, 2004, 16, 2732-2741.	4.0	85
83	Simple ideas on mixing and fragmentation. Chaos, 2004, 14, 924-932.	2.5	3
84	Unifying ideas on mixing and atomization. New Journal of Physics, 2004, 6, 125-125.	2.9	10
85	How vortices mix. Journal of Fluid Mechanics, 2003, 476, 213-222.	3.4	104
86	Mixing as an Aggregation Process. Physical Review Letters, 2003, 91, 184501.	7.8	91
87	Life of a flapping liquid sheet. Journal of Fluid Mechanics, 2002, 462, 341-363.	3.4	124
88	Life of a smooth liquid sheet. Journal of Fluid Mechanics, 2002, 462, 307-340.	3.4	95
89	Transient Surface Tension of an Expanding Liquid Sheet. Journal of Colloid and Interface Science, 2000, 230, 29-40.	9.4	22
90	Persistency of material element deformation in isotropic flows and growth rate of lines and surfaces. European Physical Journal B, 2000, 18, 353-361.	1.5	16

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91	Mixing in coaxial jets. <i>Journal of Fluid Mechanics</i> , 2000, 425, 161-185.	3.4	128
92	On the geometry of turbulent mixing. <i>Journal of Fluid Mechanics</i> , 1999, 393, 123-147.	3.4	63
93	Mixing and Spray Formation in Coaxial Jets. <i>Journal of Propulsion and Power</i> , 1998, 14, 807-817.	2.2	98
94	Break-up and atomization of a round water jet by a high-speed annular air jet. <i>Journal of Fluid Mechanics</i> , 1998, 357, 351-379.	3.4	315
95	On the role of viscosity in shear instabilities. <i>Physics of Fluids</i> , 1998, 10, 368-373.	4.0	47
96	Flow regimes of large-velocity-ratio coaxial jets. <i>Journal of Fluid Mechanics</i> , 1997, 345, 357-381.	3.4	194
97	Memory-Induced Low Frequency Oscillations in Closed Convection Boxes. <i>Physical Review Letters</i> , 1995, 75, 4618-4621.	7.8	92
98	Line Dispersion in Homogeneous Turbulence: Stretching, Fractal Dimensions, and Micromixing. <i>Physical Review Letters</i> , 1994, 73, 252-255.	7.8	35
99	Pulsed dynamics of fountains. <i>Nature</i> , 1994, 371, 24-25.	27.8	16
100	On the Physics of Jet Diffusion Flames. <i>Combustion Science and Technology</i> , 1992, 84, 279-294.	2.3	25