Sascha Hilgenfeldt

List of Publications by Year
in descending order

69	5,844	159585 30	110387 64
papers	citations	h-index	g-index

73	73	73	3770
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Single-bubble sonoluminescence. Reviews of Modern Physics, 2002, 74, 425-484.	45.6	839
2	Controlled vesicle deformation and lysis by single oscillating bubbles. Nature, 2003, 423, 153-156.	27.8	731
3	A model for large amplitude oscillations of coated bubbles accounting for buckling and rupture. Journal of the Acoustical Society of America, 2005, 118, 3499-3505.	1.1	587
4	A Generalized View of Foam Drainage:Â Experiment and Theory. Langmuir, 2000, 16, 6327-6341.	3.5	364
5	Phase diagrams for sonoluminescing bubbles. Physics of Fluids, 1996, 8, 2808-2826.	4.0	295
6	Dynamics of Coarsening Foams: Accelerated and Self-Limiting Drainage. Physical Review Letters, 2001, 86, 4704-4707.	7.8	221
7	A simple explanation of light emission in sonoluminescence. Nature, 1999, 398, 402-405.	27.8	207
8	Sonoluminescing Air Bubbles Rectify Argon. Physical Review Letters, 1997, 78, 1359-1362.	7.8	196
9	Liquid Flow through Aqueous Foams: The Node-Dominated Foam Drainage Equation. Physical Review Letters, 1999, 82, 4232-4235.	7.8	186
10	A bubble-driven microfluidic transport element for bioengineering. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 9523-9527.	7.1	173
11	Analysis of Rayleighâ€“Plesset dynamics for sonoluminescing bubbles. Journal of Fluid Mechanics, 1998, 365, 171-204.	3.4	170
12	An Accurate von Neumann's Law for Three-Dimensional Foams. Physical Review Letters, 2001, 86, 2685-2688.	7.8	134
13	Physical modeling of cell geometric order in an epithelial tissue. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 907-911.	7.1	117
14	Sonoluminescence light emission. Physics of Fluids, 1999, 11, 1318-1330.	4.0	115
15	Inert gas accumulation in sonoluminescing bubbles. Journal of Chemical Physics, 1997, 107, 6986-6997.	3.0	105
16	Drainage of single Plateau borders: Direct observation of rigid and mobile interfaces. Physical Review E, 2002, 66, 040601.	2.1	99
17	Ultrasound-induced microbubble coalescence. Ultrasound in Medicine and Biology, 2004, 30, 1337-1344.	1.5	99
18	Efficient manipulation of microparticles in bubble streaming flows. Biomicrofluidics, 2012, 6, 12801-1280111.	2.4	85

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19	High-speed imaging of an ultrasound-driven bubble in contact with a wall: â€œNarcissusâ€•effect and resolved acoustic streaming. Experiments in Fluids, 2006, 41, 147-153.	2.4	81
20	Frequency dependence and frequency control of microbubble streaming flows. Physics of Fluids, 2013, 25, .	4.0	79
21	Sound scattering and localized heat deposition of pulse-driven microbubbles. Journal of the Acoustical Society of America, 2000, 107, 3530-3539.	1.1	74
22	Size-sensitive sorting of microparticles through control of flow geometry. Applied Physics Letters, 2011, 99, .	3.3	69
23	Water Temperature Dependence of Single Bubble Sonoluminescence. Physical Review Letters, 1998, 80, 1332-1335.	7.8	59
24	Suppressing Dissociation in Sonoluminescing Bubbles: The Effect of Excluded Volume. Physical Review Letters, 2002, 88, 034301.	7.8	55
25	Deformation and rupture of lipid vesicles in the strong shear flow generated by ultrasound-driven microbubbles. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1781-1800.	2.1	49
26	Three-Dimensional Phenomena in Microbubble Acoustic Streaming. Physical Review Applied, 2015, 3, .	3.8	48
27	Sound radiation of 3-MHz driven gas bubbles. Journal of the Acoustical Society of America, 1997, 102, 1223-1230.	1.1	46
28	Squeezing Alcohols into Sonoluminescing Bubbles: The Universal Role of Surfactants. Physical Review Letters, 2000, 84, 2509-2512.	7.8	37
29	Predictions for Upscaling Sonoluminescence. Physical Review Letters, 1999, 82, 1036-1039.	7.8	36
30	Two-dimensional streaming flows driven by sessile semicylindrical microbubbles. Journal of Fluid Mechanics, 2014, 739, 57-71.	3.4	32
31	Lewis' law revisited: the role of anisotropy in sizeâ€“topology correlations. New Journal of Physics, 2014, 16, 015024.	2.9	31
32	Growth control of sessile microbubbles in PDMS devices. Lab on A Chip, 2015, 15, 4607-4613.	6.0	30
33	Particle migration and sorting in microbubble streaming flows. Biomicrofluidics, 2016, 10, 014124.	2.4	30
34	Analytical Results for Size-Topology Correlations in 2D Disk and Cellular Packings. Physical Review Letters, 2012, 108, 015502.	7.8	28
35	Hexagonal Patterning of the Insect Compound Eye: Facet Area Variation, Defects, and Disorder. Biophysical Journal, 2016, 111, 2735-2746.	0.5	27
36	Foam: a multiphase system with many facets. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 2145-2159.	3.4	25

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37	Flow Topology During Multiplexed Particle Manipulation Using a Stokes Trap. Physical Review Applied, 2019, 12, .	3.8	23
38	Cell shapes and patterns as quantitative indicators of tissue stress in the plant epidermis. Soft Matter, 2015, 11, 7270-7275.	2.7	20
39	Three-dimensional streaming flow in confined geometries. Journal of Fluid Mechanics, 2015, 777, 408-429.	3.4	18
40	Spontaneous brittle-to-ductile transition in aqueous foam. Journal of Rheology, 2012, 56, 485-499.	2.6	17
41	Universal Features of Metastable State Energies in Cellular Matter. Physical Review Letters, 2018, 120, 248001.	7.8	17
42	Acoustic Energy Storage in Single Bubble Sonoluminescence. Physical Review Letters, 1996, 77, 3467-3470.	7.8	16
43	The acoustics of diagnostic microbubbles: dissipative effects and heat deposition. Ultrasonics, 2000, 38, 99-104.	3.9	15
44	Cadherin-Dependent Cell Morphology in an Epithelium: Constructing a Quantitative Dynamical Model. PLoS Computational Biology, 2011, 7, e1002115.	3.2	15
45	Fast inertial particle manipulation in oscillating flows. Physical Review Fluids, 2017, 2, .	2.5	15
46	DNA self-organization controls valence in programmable colloid design. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	13
47	Hydrodynamic force on a sphere normal to an obstacle due to a non-uniform flow. Journal of Fluid Mechanics, 2017, 818, 407-434.	3.4	12
48	Analysis of optimal mixing in open-flow mixers with time-modulated vortex arrays. Physical Review Fluids, 2017, 2, .	2.5	11
49	Microstructural effects in aqueous foam fracture. Journal of Fluid Mechanics, 2015, 785, 425-461.	3.4	8
50	Size-topology correlations in disk packings: terminal bidispersity in orderâ€“disorder transitions. Philosophical Magazine, 2013, 93, 4018-4029.	1.6	7
51	Inertial forces for particle manipulation near oscillating interfaces. Physical Review Fluids, 2018, 3, .	2.5	7
52	Size-dependent particle migration and trapping in three-dimensional microbubble streaming flows. Physical Review Fluids, 2020, 5, .	2.5	6
53	Sound basis for light emission. Nature Physics, 2006, 2, 435-436.	16.7	5
54	Viscous Rayleighâ€“Taylor instability in aqueous foams. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 436, 898-905.	4.7	5

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55	An unrecognized inertial force induced by flow curvature in microfluidics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	5
56	Why air bubbles in water glow so easily. , 1996, , 79-97.		4
57	Heterogeneous vesicles: an analytical approach to equilibrium shapes. Soft Matter, 2015, 11, 8920-8929.	2.7	4
58	Simple, General Criterion for Onset of Disclination Disorder on Curved Surfaces. Physical Review Letters, 2020, 125, 078003.	7.8	4
59	Sonolumineszenz: Die Lichtblitze in schallgetriebenen Blasen sind thermische Strahlung eines nichtâ€schwarzen KÃ¶rpers. Physik Journal, 2000, 56, 43-46.	0.1	3
60	A simple landscape of metastable state energies for two-dimensional cellular matter. Soft Matter, 2019, 15, 237-242.	2.7	3
61	Response to â€œComment on â€˜Sonoluminescence light emissionâ€™â€‰â€•[Phys. Fluids12, 472 (1999)]. Physics of Fluids, 2000, 12, 474-475.	4.0	2
62	Cracks and fingers: Dynamics of ductile fracture in an aqueous foam. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 534, 58-70.	4.7	2
63	10.1063/1.3610940.1. , 2011, , .		1
64	Phase diagrams for sonoluminescing bubbles. Journal of the Acoustical Society of America, 1996, 100, 2678-2678.	1.1	1
65	Sonoluminescence: When bubbles glow. , 1999, , 215-224.		0
66	Predicting the characteristics of defect transitions on curved surfaces. Soft Matter, 2021, 17, 4059-4068.	2.7	0
67	Sonoluminescence in Alcohol Contaminated Water: A Drunken Bubble. Fluid Mechanics and Its Applications, 2001, , 297-302.	0.2	0
68	Upscaling Single-Bubble Sonoluminescence. , 2003, , 29-43.		0
69	The Hydrodynamical / Chemical Approach to Sonoluminescence. , 1999, , 165-182.		0