Sascha Hilgenfeldt

List of Publications by Year
in descending order

69 papers	5,844 citations	159585 30 h-index	110387 64 g-index
73 all docs	73 docs citations	73 times ranked	3770 citing authors

#	Article	IF	Citations
1	Predicting the characteristics of defect transitions on curved surfaces. Soft Matter, 2021, 17, 4059-4068.	2.7	0
2	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
3	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
4	Simple, General Criterion for Onset of Disclination Disorder on Curved Surfaces. Physical Review Letters, 2020, 125, 078003.	7.8	4
5	Size-dependent particle migration and trapping in three-dimensional microbubble streaming flows. Physical Review Fluids, 2020, 5, .	2.5	6
6	Flow Topology During Multiplexed Particle Manipulation Using a Stokes Trap. Physical Review Applied, 2019, 12, .	3.8	23
7	A simple landscape of metastable state energies for two-dimensional cellular matter. Soft Matter, 2019, 15, 237-242.	2.7	3
8	Universal Features of Metastable State Energies in Cellular Matter. Physical Review Letters, 2018, 120, 248001.	7.8	17
9	Inertial forces for particle manipulation near oscillating interfaces. Physical Review Fluids, 2018, 3, .	2.5	7
10	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
11	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
12	Fast inertial particle manipulation in oscillating flows. Physical Review Fluids, 2017, 2, .	2.5	15
13	Analysis of optimal mixing in open-flow mixers with time-modulated vortex arrays. Physical Review Fluids, 2017, 2, .	2.5	11
14	Hexagonal Patterning of the Insect Compound Eye: Facet Area Variation, Defects, and Disorder. Biophysical Journal, 2016, 111, 2735-2746.	0.5	27
15	Particle migration and sorting in microbubble streaming flows. Biomicrofluidics, 2016, 10, 014124.	2.4	30
16	Three-dimensional streaming flow in confined geometries. Journal of Fluid Mechanics, 2015, 777, 408-429.	3.4	18
17	Microstructural effects in aqueous foam fracture. Journal of Fluid Mechanics, 2015, 785, 425-461.	3.4	8
18	Heterogeneous vesicles: an analytical approach to equilibrium shapes. Soft Matter, 2015, 11, 8920-8929.	2.7	4

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19	Three-Dimensional Phenomena in Microbubble Acoustic Streaming. Physical Review Applied, 2015, 3, .	3.8	48
20	Growth control of sessile microbubbles in PDMS devices. Lab on A Chip, 2015, 15, 4607-4613.	6.0	30
21	Cell shapes and patterns as quantitative indicators of tissue stress in the plant epidermis. Soft Matter, 2015, 11, 7270-7275.	2.7	20
22	Lewis' law revisited: the role of anisotropy in sizeâ€"topology correlations. New Journal of Physics, 2014, 16, 015024.	2.9	31
23	Two-dimensional streaming flows driven by sessile semicylindrical microbubbles. Journal of Fluid Mechanics, 2014, 739, 57-71.	3.4	32
24	Size-topology correlations in disk packings: terminal bidispersity in orderâ€"disorder transitions. Philosophical Magazine, 2013, 93, 4018-4029.	1.6	7
25	Viscous Rayleighâ€"Taylor instability in aqueous foams. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 436, 898-905.	4.7	5
26	Frequency dependence and frequency control of microbubble streaming flows. Physics of Fluids, 2013, 25, .	4.0	79
27	Analytical Results for Size-Topology Correlations in 2D Disk and Cellular Packings. Physical Review Letters, 2012, 108, 015502.	7.8	28
28	Efficient manipulation of microparticles in bubble streaming flows. Biomicrofluidics, 2012, 6, 12801-1280111.	2.4	85
29	Spontaneous brittle-to-ductile transition in aqueous foam. Journal of Rheology, 2012, 56, 485-499.	2.6	17
30	Size-sensitive sorting of microparticles through control of flow geometry. Applied Physics Letters, 2011, 99, .	3.3	69
31	Cadherin-Dependent Cell Morphology in an Epithelium: Constructing a Quantitative Dynamical Model. PLoS Computational Biology, 2011, 7, e1002115.	3.2	15
32	10.1063/1.3610940.1. , 2011, , .		1
33	Foam: a multiphase system with many facets. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 2145-2159.	3.4	25
34	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
35	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
36	Sound basis for light emission. Nature Physics, 2006, 2, 435-436.	16.7	5

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37	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
38	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
39	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
40	Ultrasound-induced microbubble coalescence. Ultrasound in Medicine and Biology, 2004, 30, 1337-1344.	1.5	99
41	Controlled vesicle deformation and lysis by single oscillating bubbles. Nature, 2003, 423, 153-156.	27.8	731
42	Upscaling Single-Bubble Sonoluminescence. , 2003, , 29-43.		0
43	Suppressing Dissociation in Sonoluminescing Bubbles: The Effect of Excluded Volume. Physical Review Letters, 2002, 88, 034301.	7.8	55
44	Drainage of single Plateau borders: Direct observation of rigid and mobile interfaces. Physical Review E, 2002, 66, 040601.	2.1	99
45	Single-bubble sonoluminescence. Reviews of Modern Physics, 2002, 74, 425-484.	45.6	839
46	An Accurate von Neumann's Law for Three-Dimensional Foams. Physical Review Letters, 2001, 86, 2685-2688.	7.8	134
47	Dynamics of Coarsening Foams: Accelerated and Self-Limiting Drainage. Physical Review Letters, 2001, 86, 4704-4707.	7.8	221
48	Sonoluminescence in Alcohol Contaminated Water: A Drunken Bubble. Fluid Mechanics and Its Applications, 2001, , 297-302.	0.2	0
49	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
50	The acoustics of diagnostic microbubbles: dissipative effects and heat deposition. Ultrasonics, 2000, 38, 99-104.	3.9	15
51	Squeezing Alcohols into Sonoluminescing Bubbles: The Universal Role of Surfactants. Physical Review Letters, 2000, 84, 2509-2512.	7.8	37
52	Sonolumineszenz: Die Lichtblitze in schallgetriebenen Blasen sind thermische Strahlung eines nichtâ€šschwarzen KÃ¶rpers. Physik Journal, 2000, 56, 43-46.	0.1	3
53	Sound scattering and localized heat deposition of pulse-driven microbubbles. Journal of the Acoustical Society of America, 2000, 107, 3530-3539.	1.1	74
54	A Generalized View of Foam Drainage:Â Experiment and Theory. Langmuir, 2000, 16, 6327-6341.	3.5	364

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55	Sonoluminescence light emission. Physics of Fluids, 1999, 11, 1318-1330.	4.0	115
56	Predictions for Upscaling Sonoluminescence. Physical Review Letters, 1999, 82, 1036-1039.	7.8	36
57	A simple explanation of light emission in sonoluminescence. Nature, 1999, 398, 402-405.	27.8	207
58	Liquid Flow through Aqueous Foams: The Node-Dominated Foam Drainage Equation. Physical Review Letters, 1999, 82, 4232-4235.	7.8	186
59	Sonoluminescence: When bubbles glow. , 1999, , 215-224.		0
60	The Hydrodynamical / Chemical Approach to Sonoluminescence. , 1999, , 165-182.		0
61	Water Temperature Dependence of Single Bubble Sonoluminescence. Physical Review Letters, 1998, 80, 1332-1335.	7.8	59
62	Analysis of Rayleighâ€"Plesset dynamics for sonoluminescing bubbles. Journal of Fluid Mechanics, 1998, 365, 171-204.	3.4	170
63	Inert gas accumulation in sonoluminescing bubbles. Journal of Chemical Physics, 1997, 107, 6986-6997.	3.0	105
64	Sonoluminescing Air Bubbles Rectify Argon. Physical Review Letters, 1997, 78, 1359-1362.	7.8	196
65	Sound radiation of 3-MHz driven gas bubbles. Journal of the Acoustical Society of America, 1997, 102, 1223-1230.	1.1	46
66	Phase diagrams for sonoluminescing bubbles. Physics of Fluids, 1996, 8, 2808-2826.	4.0	295
67	Acoustic Energy Storage in Single Bubble Sonoluminescence. Physical Review Letters, 1996, 77, 3467-3470.	7.8	16
68	Why air bubbles in water glow so easily. , 1996, , 79-97.		4
69	Phase diagrams for sonoluminescing bubbles. Journal of the Acoustical Society of America, 1996, 100, 2678-2678.	1.1	1