Zhigang Li

List of Publications by Year
in descending order

74	2,178	218381	243296
papers	citations	26 h-index	44 g-index

79	79	79	2550
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Directional passive transport of nanodroplets on general axisymmetric surfaces. Physical Chemistry Chemical Physics, 2022, 24, 9727-9734.	1.3	4
2	The role of entrance functionalization in carbon nanotube-based nanofluidic systems: An intrinsic challenge. Physics of Fluids, 2021, 33, .	1.6	9
3	Release of methane from nanochannels through displacement using CO₂. RSC Advances, 2021, 11, 15457-15466.	1.7	4
4	Hairpin DNA-Mediated isothermal amplification (HDMIA) techniques for nucleic acid testing. Talanta, 2021, 226, 122146.	2.9	19
5	Macrodropâ€Impactâ€Mediated Fluid Microdispensing. Advanced Science, 2021, 8, e2101331.	5.6	26
6	A nanopump using carbon nanotube hetero-junction driven by symmetric temperature gradients. Physics of Fluids, 2021, 33, .	1.6	6
7	Molecular understanding of ion rejection in the freezing of aqueous solutions. Physical Chemistry Chemical Physics, 2021, 23, 13292-13299.	1.3	13
8	Size-Sensitive Thermoelectric Properties of Electrolyte-Based Nanofluidic Systems. Journal of Physical Chemistry Letters, 2021, 12, 1144-1149.	2.1	9
9	An isothermal, non-enzymatic, and dual-amplified fluorescent sensor for highly sensitive DNA detection. Reviews in Analytical Chemistry, 2021, 40, 312-322.	1.5	1
10	Coupling effects in electromechanical ion transport in graphene nanochannels. Physical Review E, 2020, 102, 033112.	0.8	10
11	Effect of external pressure on the release of methane through MFI zeolite nanochannels. RSC Advances, 2020, 10, 37507-37514.	1.7	2
12	A microfluidic rectifier for Newtonian fluids using asymmetric convergingâ€“diverging microchannels. Physics of Fluids, 2020, 32, .	1.6	20
13	Homogeneous Ice Nucleation Under Shear. Journal of Physical Chemistry B, 2020, 124, 3701-3708.	1.2	12
14	Ice Crystallization in Shear Flows. Journal of Physical Chemistry C, 2019, 123, 21042-21049.	1.5	9
15	Water transport through graphene and MoS2 nanopores. Journal of Applied Physics, 2019, 126, .	1.1	14
16	Negative differential thermal resistance through nanoscale solidâ€“fluidâ€“solid sandwiched structures. Nanoscale, 2019, 11, 13051-13057.	2.8	16
17	Graphene oxide and enzyme-assisted dual-cycling amplification method for sensitive fluorometric determination of DNA. Mikrochimica Acta, 2019, 186, 716.	2.5	8
18	Resolving the Apparent Line Tension of Sessile Droplets and Understanding its Sign Change at a Critical Wetting Angle. Physical Review Letters, 2019, 123, 094501.	2.9	19

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19	Understanding flow enhancement in grapheneâ€coated nanochannels. Electrophoresis, 2019, 40, 859-864.	1.3	22
20	Effects of temperature and pore structure on the release of methane in zeolite nanochannels. RSC Advances, 2019, 9, 9546-9554.	1.7	4
21	Fluid release pressure for nanochannels: the Youngâ€“Laplace equation using the effective contact angle. Nanoscale, 2019, 11, 8408-8415.	2.8	35
22	A dual-cycling fluorescence scheme for ultrasensitive DNA detection through signal amplification and target regeneration. Analyst, The, 2019, 144, 2649-2655.	1.7	12
23	Surface Energy-Mediated Multistep Pathways for Heterogeneous Ice Nucleation. Journal of Physical Chemistry C, 2018, 122, 9474-9479.	1.5	14
24	Flow characterization in converging-diverging microchannels. Physics of Fluids, 2018, 30, .	1.6	13
25	Enhancing and Impeding Heterogeneous Ice Nucleation through Nanogrooves. Journal of Physical Chemistry C, 2018, 122, 25992-25998.	1.5	27
26	Shear lift forces on nanocylinders in the free molecule regime. Journal of Fluid Mechanics, 2018, 846, 392-410.	1.4	4
27	Roles of Surface Energy and Temperature in Heterogeneous Ice Nucleation. Journal of Physical Chemistry C, 2017, 121, 11552-11559.	1.5	23
28	Metal ion detection using functional nucleic acids and nanomaterials. Biosensors and Bioelectronics, 2017, 96, 127-139.	5.3	48
29	Fluid breakup in carbon nanotubes: An explanation of ultrafast ion transport. Physics of Fluids, 2017, 29, 092003.	1.6	20
30	Submillimeter-Sized Bubble Entrapment and a High-Speed Jet Emission during Droplet Impact on Solid Surfaces. Langmuir, 2017, 33, 7225-7230.	1.6	49
31	Lift force on spherical nanoparticles in shear flows of rarefied binary gas mixtures. Journal of Fluid Mechanics, 2016, 809, 345-359.	1.4	5
32	Passive nanofluidic diode using non-uniform nanochannels. Physics of Fluids, 2016, 28, .	1.6	12
33	Lift force on nanoparticles in shear flows of dilute gases: negative or positive?. Journal of Fluid Mechanics, 2016, 795, 443-454.	1.4	12
34	Drag force and transport property of a small cylinder in free molecule flow: A gas-kinetic theory analysis. Physical Review E, 2016, 94, 023102.	0.8	15
35	Passive fluidic diode for simple fluids using nested nanochannel structures. Physical Review E, 2016, 93, 033101.	0.8	12
36	A Relation for Nanodroplet Diffusion on Smooth Surfaces. Scientific Reports, 2016, 6, 26488.	1.6	15

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37	Molecular beacon-based enzyme-free strategy for amplified DNA detection. Biosensors and Bioelectronics, 2016, 79, 758-762.	5.3	12
38	Controlling flow direction in nanochannels by electric field strength. Physical Review E, 2015, 92, 023017.	0.8	15
39	Nanofluidic Diode for Simple Fluids without Moving Parts. Physical Review Letters, 2015, 115, 134503.	2.9	44
40	Molybdenum disulfide-based amplified fluorescence DNA detection using hybridization chain reactions. Journal of Materials Chemistry B, 2015, 3, 2395-2401.	2.9	87
41	Fluid infiltration pressure for hydrophobic nanochannels. Physical Review E, 2015, 91, 033022.	0.8	31
42	Biosensing using hairpin DNA probes. Reviews in Analytical Chemistry, 2015, 34, 1-27.	1.5	25
43	Detecting Arbitrary DNA Mutations Using Graphene Oxide and Ethidium Bromide. Analytical Chemistry, 2015, 87, 12254-12261.	3.2	30
44	Non-pn-junction-based solar cells: Charge carrier separation in solar cells with bound surface charges. , 2014, , .		0
45	Field-effect ferroelectric-semiconductor solar cells. , 2014, , .		0
46	Effects of ions on the diffusion coefficient of water in carbon nanotubes. Journal of Applied Physics, 2014, 116, .	1.1	18
47	Field-effect BaTiO3-Si solar cells. Applied Physics Letters, 2014, 104, 123901.	1.5	17
48	Flow and slip transition in nanochannels. Physical Review E, 2014, 90, 033003.	0.8	35
49	Effects of N doping and NH2grafting on the mechanical and wrinkling properties of graphene sheets. RSC Advances, 2013, 3, 923-929.	1.7	13
50	Fluid transport in nanochannels induced by temperature gradients. Journal of Chemical Physics, 2012, 136, 114506.	1.2	23
51	Directional motion of evaporating droplets on gradient surfaces. Applied Physics Letters, 2012, 101, 064101.	1.5	17
52	Highly transparent and conducting ultralarge graphene oxide/single-walled carbon nanotube hybrid films produced by Langmuirâ€“Blodgett assembly. Journal of Materials Chemistry, 2012, 22, 25072.	6.7	151
53	Enzyme-Free and Amplified Fluorescence DNA Detection Using Bimolecular Beacons. Analytical Chemistry, 2012, 84, 5939-5943.	3.2	124
54	Evolution of entrapped air under bouncing droplets on viscoelastic surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 384, 726-732.	2.3	38

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55	A comparative study of droplet impact dynamics on a dual-scaled superhydrophobic surface and lotus leaf. Applied Surface Science, 2011, 257, 8857-8863.	3.1	160
56	On the validity of the Navier-Stokes equations for nanoscale liquid flows: The role of channel size. AIP Advances, 2011, 1, .	0.6	58
57	Discrete self-oscillation period branches observed in semiconductor superlattices. Physical Review B, 2011, 83, .	1.1	2
58	Nanoscale Poiseuille Flows of Liquid Argon. Mechanics of Advanced Materials and Structures, 2011, 18, 585-589.	1.5	1
59	Friction-Induced Fluid Heating in Nanoscale Helium Flows. , 2010, , .		0
60	Size-dependent elastic properties of Au nanowires under bending and tensionâ€"Surfaces versus core nonlinearity. Journal of Applied Physics, 2010, 108, 083506.	1.1	34
61	Surface effects on nanoscale Poiseuille flows under large driving force. Journal of Chemical Physics, 2010, 132, 024507.	1.2	27
62	Molecular Dynamics Simulation of Composite Nanochannels as Nanopumps Driven by Symmetric Temperature Gradients. Physical Review Letters, 2010, 105, 174501.	2.9	66
63	Flow dependence of interfacial thermal resistance in nanochannels. Journal of Chemical Physics, 2010, 132, 094703.	1.2	27
64	Critical droplet volume for spontaneous capillary wrapping. Applied Physics Letters, 2010, 97, 124103.	1.5	10
65	Bouncing droplets on nonsuperhydrophobic surfaces. Physical Review E, 2010, 82, 016308.	0.8	61
66	Surface effects on friction-induced fluid heating in nanochannel flows. Physical Review E, 2009, 79, 026312.	0.8	38
67	Critical particle size where the Stokes-Einstein relation breaks down. Physical Review E, 2009, 80, 061204.	0.8	71
68	Flow regimes and parameter dependence in nanochannel flows. Physical Review E, 2009, 80, 036302.	0.8	54
69	Hydrodynamic interactions in dissipative particle dynamics. Physics of Fluids, 2008, 20, .	1.6	37
70	Gas-Nanoparticle Scattering: A Molecular View of Momentum Accommodation Function. Physical Review Letters, 2005, 95, 014502.	2.9	64
71	Thermophoretic force and velocity of nanoparticles in the free molecule regime. Physical Review E, 2004, 70, 021205.	0.8	51
72	Drag force, diffusion coefficient, and electric mobility of small particles. II. Application. Physical Review E, 2003, 68, 061207.	0.8	80

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73	Drag force, diffusion coefficient, and electric mobility of small particles. I. Theory applicable to the free-molecule regime. Physical Review E, 2003, 68, 061206.	0.8	107
74	Nanofluidics. , 0, , .		7