

# Richard K Bowles

## List of Publications by Year in descending order

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70  
papers

1,423  
citations

279701

23  
h-index

345118

36  
g-index

73  
all docs

73  
docs citations

73  
times ranked

1014  
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence on crystal nucleation of an order-disorder transition among the subcritical clusters. <i>Physical Review E</i> , 2022, 105, .	0.8	1
2	Free energy surface of two-step nucleation. <i>Journal of Chemical Physics</i> , 2021, 154, 234507.	1.2	9
3	Inherent structure landscape of hard spheres confined to narrow cylindrical channels. <i>Physical Review E</i> , 2021, 104, 064602.	0.8	0
4	Mapping diffusivity of narrow channels into one dimension. <i>Physical Review E</i> , 2020, 101, 012908.	0.8	2
5	The effect of soft repulsive interactions on the diffusion of particles in quasi-one-dimensional channels: A hopping time approach. <i>Journal of Chemical Physics</i> , 2019, 150, 224501.	1.2	3
6	Phase transitions in fluctuations and their role in two-step nucleation. <i>Journal of Chemical Physics</i> , 2019, 150, 074501.	1.2	30
7	Modeling the influence of effective oil volume fraction and droplet repulsive interaction on nanoemulsion gelation. <i>Journal of Food Engineering</i> , 2019, 249, 25-33.	2.7	8
8	Glass forming phase diagram and local structure of Kob-Andersen binary Lennard-Jones nanoparticles. <i>Journal of Chemical Physics</i> , 2018, 149, 094502.	1.2	2
9	Diffusion in quasi-one-dimensional channels: A small system $n, p, T$ , transition state theory for hopping times. <i>Journal of Chemical Physics</i> , 2017, 146, 154505.	1.2	10
10	“Swarm relaxation” Equilibrating a large ensemble of computer simulations†. <i>European Physical Journal E</i> , 2017, 40, 98.	0.7	7
11	Exploring the Impact of Tail Polarity on the Phase Behavior of Single Component and Mixed Lipid Monolayers Using a MARTINI Coarse-Grained Force Field. <i>Journal of Physical Chemistry B</i> , 2016, 120, 7641-7651.	1.2	4
12	Competitive heterogeneous nucleation onto a microscopic impurity in a Potts model. <i>Journal of Chemical Physics</i> , 2016, 145, 064511.	1.2	1
13	Vapor Condensed and Supercooled Glassy Nanoclusters. <i>ACS Nano</i> , 2016, 10, 3416-3423.	7.3	3
14	Nonclassical Nucleation in a Solid-Solid Transition of Confined Hard Spheres. <i>Physical Review Letters</i> , 2015, 115, 185701.	2.9	48
15	Free energy of formation of small ice nuclei near the Widom line in simulations of supercooled water. <i>European Physical Journal E</i> , 2015, 38, 124.	0.7	15
16	Helical Defect Packings in a Quasi-One-Dimensional System of Cylindrically Confined Hard Spheres. <i>Physical Review Letters</i> , 2015, 115, 025702.	2.9	16
17	Inherent structures, fragility, and jamming: Insights from quasi-one-dimensional hard disks. <i>Physical Review E</i> , 2015, 91, 022301.	0.8	24
18	A transition state theory for calculating hopping times and diffusion in highly confined fluids. <i>Journal of Chemical Physics</i> , 2014, 140, 024505.	1.2	12

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19	Free energy surface of ST2 water near the liquid-liquid phase transition. Journal of Chemical Physics, 2013, 138, 034505.	1.2	118
20	Heterogeneous nucleation in the low-barrier regime. Physical Review E, 2013, 87, 042407.	0.8	14
21	Inherent Structure Landscape Connection between Liquids, Granular Materials, and the Jamming Phase Diagram. Physical Review Letters, 2013, 110, 145701.	2.9	28
22	The solubility transition in partially miscible, non-volatile liquid drops. , 2013, , .		1
23	Competitive freezing in gold nanoparticles. , 2013, , .		0
24	Vapor condensation onto a non-volatile liquid drop. Journal of Chemical Physics, 2013, 139, 214703.	1.2	3
25	Single file and normal dual mode diffusion in highly confined hard sphere mixtures under flow. Journal of Chemical Physics, 2012, 137, 104501.	1.2	4
26	Molecular Dynamics Simulations of Competitive Freezing in Gold Nanoclusters. Journal of Physical Chemistry C, 2012, 116, 14619-14626.	1.5	14
27	Fragile-Strong Fluid Crossover and Universal Relaxation Times in a Confined Hard-Disk Fluid. Physical Review Letters, 2012, 109, 225701.	2.9	26
28	Edwards entropy and compactivity in a model of granular matter. Physical Review E, 2011, 83, 031302.	0.8	37
29	Heterogeneous condensation of the Lennard-Jones vapor onto a nanoscale seed particle. Journal of Chemical Physics, 2011, 134, 114505.	1.2	17
30	The role of fcc tetrahedral subunits in the phase behavior of medium sized Lennard-Jones clusters. Journal of Chemical Physics, 2010, 133, 074503.	1.2	11
31	Normal and anomalous diffusion in highly confined hard disk fluid mixtures. Journal of Chemical Physics, 2009, 130, 054504.	1.2	24
32	A tiling approach to counting inherent structures in hard potential systems. Journal of Non-Crystalline Solids, 2009, 355, 700-704.	1.5	3
33	Complete Jamming Landscape of Confined Hard Discs. Physical Review Letters, 2009, 102, 235701.	2.9	36
34	Crystal Nucleation in a Supercooled Liquid with Glassy Dynamics. Physical Review Letters, 2009, 103, 225701.	2.9	28
35	Dual Polarization Imaging of a Dual Fluorophore Ion Sensor: A Single Molecule Study. ChemPhysChem, 2008, 9, 1947-1953.	1.0	0
36	Statistical Geometry and Cavity Correlations in the Hard Sphere Fluid. Collection of Czechoslovak Chemical Communications, 2008, 73, 344-357.	1.0	1

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37	A limit of stability in supercooled liquid clusters. <i>Journal of Chemical Physics</i> , 2007, 127, 154703.	1.2	16
38	Surface Nucleation in the Freezing of Gold Nanoparticles. <i>Physical Review Letters</i> , 2007, 98, 185503.	2.9	49
39	Surface Nucleation in Freezing Nanoparticles. , 2007, , 339-343.		0
40	Test of classical nucleation theory on deeply supercooled high-pressure simulated silica. <i>Journal of Chemical Physics</i> , 2006, 124, 224709.	1.2	34
41	Landscapes, dynamic heterogeneity, and kinetic facilitation in a simple off-lattice model. <i>Physical Review E</i> , 2006, 73, 011503.	0.8	28
42	Calculating the hopping times of confined fluids: Two hard disks in a box. <i>Journal of Chemical Physics</i> , 2004, 121, 10668-10673.	1.2	32
43	Osmotic force resisting chain insertion in a colloidal suspension. <i>European Physical Journal E</i> , 2003, 10, 191-197.	0.7	17
44	Phase transitions in systems small enough to be clusters. <i>Journal of Chemical Physics</i> , 2003, 118, 340-353.	1.2	117
45	On a debate over the simulation and mapping of physical clusters in small cells. <i>Journal of Chemical Physics</i> , 2002, 117, 557-566.	1.2	4
46	Theory of Size Dependent Deliquescence of Nanoparticles: A Relation to Heterogeneous Nucleation and Comparison with Experiments. <i>Journal of Physical Chemistry B</i> , 2001, 105, 7708-7722.	1.2	50
47	Role of constraints in the thermodynamics of heterogeneous condensation on solid soluble particles: failure of the capillarity approximation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 298, 155-176.	1.2	13
48	A theorem for inhomogeneous systems: The generalization of the nucleation theorem. <i>Journal of Chemical Physics</i> , 2001, 115, 1853-1866.	1.2	37
49	Simulative determination of kinetic coefficients for nucleation rates. <i>Journal of Chemical Physics</i> , 2001, 114, 8091-8104.	1.2	35
50	Statistical geometry of hard sphere systems: exact relations for first-order phase transitions in multicomponent systems. <i>Molecular Physics</i> , 2000, 98, 429-438.	0.8	5
51	A thermodynamic description of the glass transition: an exact one-dimensional example. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 275, 217-228.	1.2	10
52	A theory for the deliquescence of small particles. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	0
53	A comparison of Köhler activation with nucleation for NaCl-H <sub>2</sub> O. <i>Journal of Chemical Physics</i> , 2000, 113, 8194-8199.	1.2	17
54	Simulation of nanoscale density fluctuations. <i>Journal of Chemical Physics</i> , 2000, 113, 8615-8630.	1.2	5

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55	A molecular based derivation of the nucleation theorem. Journal of Chemical Physics, 2000, 113, 4524-4532.	1.2	40
56	Mapping of simulated localized fluctuations onto a macrosystem: Direct counting in the macrosystem to confirm statistical mechanical theory. Journal of Chemical Physics, 2000, 112, 1122-1124.	1.2	4
57	Mapping volume scale for overlapping clusters. Journal of Chemical Physics, 2000, 112, 1390-1394.	1.2	11
58	A theory for the deliquescence of small particles. Journal of Chemical Physics, 2000, 113, 8200-8205.	1.2	52
59	Statistical geometry of hard sphere systems: exact relations for additive and non-additive mixtures. Molecular Physics, 1999, 96, 1623-1635.	0.8	13
60	Comparison between two methods for mapping fluctuations in a simulation cell onto a macrovolume. Journal of Chemical Physics, 1999, 111, 9965-9970.	1.2	9
61	Some fundamental statistical mechanical relations concerning physical clusters of interest to nucleation theory. Journal of Chemical Physics, 1999, 111, 7501-7504.	1.2	37
62	A molecular theory of the homogeneous nucleation rate. II. Application to argon vapor. Journal of Chemical Physics, 1999, 110, 6438-6450.	1.2	72
63	Five discs in a box. Physica A: Statistical Mechanics and Its Applications, 1999, 262, 76-87.	1.2	17
64	Statistical Geometry and Lattices. Journal of Statistical Physics, 1999, 96, 1111-1123.	0.5	5
65	A molecular theory of the homogeneous nucleation rate. I. Formulation and fundamental issues. Journal of Chemical Physics, 1999, 110, 6421-6437.	1.2	85
66	The vapour pressure of glassy crystals of dimers. Molecular Physics, 1996, 87, 1349-1361.	0.8	20
67	ERRATUM The vapour pressure of glassy crystals of dimers. Molecular Physics, 1996, 88, 1671-1671.	0.8	1
68	Cavities in the hard sphere crystal and fluid. Molecular Physics, 1994, 83, 113-125.	0.8	21
69	Free energy surface of ST2 water near the liquid-liquid phase transition. , 0, .		1
70	The vapour pressure of glassy crystals of dimers. , 0, .		1