Nigel B Wilding

List of Publications by Year
in descending order

108 papers	4,154 citations	145106 33 h-index	134545 62 g-index
111 all docs	111 docs citations	111 times ranked	2159 citing authors

#	Article	IF	Citations
1	Density Depletion and Enhanced Fluctuations in Water near Hydrophobic Solutes: Identifying the Underlying Physics. Physical Review Letters, 2022, 128, 045501.	2.9	15
2	Equilibrium phases and domain growth kinetics of calamitic liquid crystals. Physical Review E, 2022, 105, 024706.	0.8	2
3	Measures of fluctuations for a liquid near critical drying. Physical Review E, 2022, 105, 044801.	0.8	2
4	The coexistence curve and surface tension of a monatomic water model. Journal of Chemical Physics, 2022, 156, 154505.	1.2	7
5	DL_MONTE: a multipurpose code for Monte Carlo simulation. Molecular Simulation, 2021, 47, 131-151.	0.9	19
6	Phase Separation and Multibody Effects in Three-Dimensional Active Brownian Particles. Physical Review Letters, 2021, 126, 038002.	2.9	33
7	Critical point for demixing of binary hard spheres. Physical Review E, 2021, 104, 044603.	0.8	3
8	Wetting Transition of Active Brownian Particles on a Thin Membrane. Physical Review Letters, 2021, 127, 238002.	2.9	12
9	A unified description of hydrophilic and superhydrophobic surfaces in terms of the wetting and drying transitions of liquids. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23901-23908.	3.3	38
10	Correction of coarse-graining errors by a two-level method: Application to the Asakura-Oosawa model. Journal of Chemical Physics, 2019, 151, 144108.	1.2	8
11	Composition inversion in mixtures of binary colloids and polymer. Journal of Chemical Physics, 2018, 148, 184902.	1.2	9
12	A simulated annealing approach to the student-project allocation problem. American Journal of Physics, 2018, 86, 701-708.	0.3	7
13	Disappearance of the Hexatic Phase in a Binary Mixture of Hard Disks. Physical Review Letters, 2017, 119, 115702.	2.9	38
14	Drying and wetting transitions of a Lennard-Jones fluid: Simulations and density functional theory. Journal of Chemical Physics, 2017, 147, 044701.	1.2	29
15	Coarse-grained depletion potentials for anisotropic colloids: Application to lock-and-key systems. Journal of Chemical Physics, 2016, 145, 084907.	1.2	9
16	Critical Drying of Liquids. Physical Review Letters, 2016, 117, 176102.	2.9	24
17	Improved grand canonical sampling of vapour-liquid transitions. Journal of Physics Condensed Matter, 2016, 28, 414016.	0.7	5
18	Porous Liquid Phases for Indented Colloids with Depletion Interactions. Physical Review Letters, 2015, 114, 237801.	2.9	22

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19	Quantifying Density Fluctuations in Water at a Hydrophobic Surface: Evidence for Critical Drying. Physical Review Letters, 2015, 115, 016103.	2.9	49
20	Self-assembly and crystallisation of indented colloids at a planar wall. Soft Matter, 2015, 11, 6089-6098.	1.2	8
21	Three-body interactions in complex fluids: Virial coefficients from simulation finite-size effects. Journal of Chemical Physics, 2014, 140, 244118.	1.2	16
22	Demixing cascades in cluster crystals. Journal of Chemical Physics, 2014, 141, 094903.	1.2	18
23	Quantifying the effects of neglecting many-body interactions in coarse-grained models of complex fluids. Physical Review E, 2014, 89, 031301.	0.8	14
24	Self-assembly of colloidal polymers via depletion-mediated lock and key binding. Soft Matter, 2013, 9, 9661.	1.2	35
25	Monte Carlo methods for estimating depletion potentials in highly size-asymmetrical hard sphere mixtures. Journal of Chemical Physics, 2013, 139, 144102.	1.2	5
26	A Monte Carlo method for chemical potential determination in single and multiple occupancy crystals. Europhysics Letters, 2013, 101, 10004.	0.7	25
27	Transitions between imperfectly ordered crystalline structures: A phase switch Monte Carlo study. Physical Review E, 2012, 85, 056703.	0.8	19
28	Polydispersity induced solidâ€“solid transitions in model colloids. Soft Matter, 2011, 7, 4472.	1.2	33
29	Depletion potentials in highly size-asymmetric binary hard-sphere mixtures: Comparison of simulation results with theory. Physical Review E, 2011, 84, 061136.	0.8	44
30	Accurate Simulation Estimates of Phase Behavior in Ternary Mixtures with Prescribed Composition. Journal of Statistical Physics, 2011, 144, 652-662.	0.5	2
31	Grand canonical simulation of phase behaviour in highly size-asymmetrical binary fluids. Molecular Physics, 2011, 109, 999-1007.	0.8	13
32	Crystalline Phases of Polydisperse Spheres. Physical Review Letters, 2010, 104, 118302.	2.9	74
33	Monte Carlo cluster algorithm for fluid phase transitions in highly size-asymmetrical binary mixtures. Journal of Chemical Physics, 2010, 133, 194102.	1.2	11
34	Fluid phase coexistence and critical behavior from simulations in the restricted Gibbs ensemble. Journal of Chemical Physics, 2010, 132, 074111.	1.2	10
35	Phase behavior of polydisperse spheres: Simulation strategies and an application to the freezing transition. Journal of Chemical Physics, 2010, 133, 224102.	1.2	26
36	Freezing parameters of soft spheres. Molecular Physics, 2009, 107, 295-299.	0.8	9

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37	Solid-liquid coexistence of polydisperse fluids via simulation. Journal of Chemical Physics, 2009, 130, 104103.	1.2	11
38	Polydisperse lattice-gas model. Physical Review E, 2008, 77, 011501.	0.8	16
39	Condensation in a Capped Capillary is a Continuous Critical Phenomenon. Physical Review Letters, 2007, 98, 226101.	2.9	67
40	Phase behavior of a fluid with competing attractive and repulsive interactions. Physical Review E, 2007, 76, 031501.	0.8	165
41	Freezing line of the Lennard-Jones fluid: A phase switch Monte Carlo study. Journal of Chemical Physics, 2006, 124, 064504.	1.2	51
42	Metastable liquid-liquid coexistence and density anomalies in a core-softened fluid. Physical Review E, 2006, 73, 061507.	0.8	105
43	Phase behaviour of a symmetrical binary mixture in a field. Europhysics Letters, 2006, 75, 234-240.	0.7	2
44	Phase behavior of a symmetrical binary fluid mixture. Journal of Chemical Physics, 2006, 125, 234503.	1.2	22
45	Phase behavior and particle size cutoff effects in polydisperse fluids. Journal of Chemical Physics, 2006, 125, 014908.	1.2	20
46	Wetting Transitions in Polydisperse Fluids. Physical Review Letters, 2006, 97, 136104.	2.9	4
47	Publisher's Note: Metastable liquid-liquid coexistence and density anomalies in a core-softened fluid [Phys. Rev. E 73, 061507 (2006)]. Physical Review E, 2006, 74, .	0.8	5
48	Simulation of Phase Transitions in Highly Asymmetric Fluid Mixtures. Physical Review Letters, 2006, 97, 115705.	2.9	16
49	Influence of polydispersity on the critical parameters of an effective-potential model for asymmetric hard-sphere mixtures. Physical Review E, 2006, 73, 036115.	0.8	18
50	Simulation estimates of cloud points of polydisperse fluids. Physical Review E, 2006, 73, 046110.	0.8	26
51	Finite-Size Scaling and Particle-Size Cutoff Effects in Phase-Separating Polydisperse Fluids. Physical Review Letters, 2005, 95, 155701.	2.9	25
52	Liquid-vapor interface of a polydisperse fluid. Physical Review E, 2005, 71, 066126.	0.8	2
53	Liquidâ€“vapour phase behaviour of a polydisperse Lennard-Jones fluid. Journal of Physics Condensed Matter, 2005, 17, S3245-S3252.	0.7	4
54	Liquid-gas coexistence and critical point shifts in size-disperse fluids. Journal of Chemical Physics, 2004, 121, 6887-6899.	1.2	18

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55	Polydisperse hard spheres at a hard wall. Journal of Chemical Physics, 2004, 121, 11362.	1.2	13
56	Phase equilibria and fractionation in a polydisperse fluid. Europhysics Letters, 2004, 67, 219-225.	0.7	18
57	Computational Strategies for Mapping Equilibrium Phase Diagrams. Advances in Chemical Physics, 2004, , 1-64.	0.3	37
58	Computational Strategies for Mapping Equilibrium Phase Diagrams. ChemInform, 2003, 34, no.	0.1	1
59	A nonequilibrium Monte Carlo approach to potential refinement in inverse problems. Journal of Chemical Physics, 2003, 119, 12163-12168.	1.2	31
60	Effects of weak surface fields on the density profiles and adsorption of a confined fluid near bulk criticality. Journal of Chemical Physics, 2003, 119, 8663-8675.	1.2	29
61	Continuous demixing at liquid-vapor coexistence in a symmetrical binary fluid mixture. Physical Review E, 2003, 67, 052503.	0.8	29
62	Phase Switch Monte Carlo. AIP Conference Proceedings, 2003, , .	0.3	2
63	Computer Simulation of Continuous Phase Transitions. , 2003, , 161-171.		2
64	Grand canonical ensemble simulation studies of polydisperse fluids. Journal of Chemical Physics, 2002, 116, 7116-7126.	1.2	45
65	Phase behavior and thermodynamic anomalies of core-softened fluids. Physical Review E, 2002, 66, 031509.	0.8	95
66	The Lennard-Jones-Devonshire cell model revisited. Molecular Physics, 2002, 100, 1641-1644.	0.8	14
67	Monte Carlo Methods for Bridging the Timescale Gap. Lecture Notes in Physics, 2002, , 231-266.	0.3	4
68	Wetting of a symmetrical binary fluid mixture on a wall. Computer Physics Communications, 2002, 147, 149-153.	3.0	7
69	A new simulation approach to the freezing transition. Computer Physics Communications, 2002, 146, 99-106.	3.0	14
70	Computer simulation of fluid phase transitions. American Journal of Physics, 2001, 69, 1147-1155.	0.3	93
71	Liquid-gas phase behavior of an argon-like fluid modelled by the hard-core two-Yukawa potential. Journal of Chemical Physics, 2001, 115, 2702-2708.	1.2	31
72	Wetting of a symmetrical binary fluid mixture on a wall. Physical Review E, 2001, 63, 031201.	0.8	26

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73	Monte Carlo investigations of phase transitions: status and perspectives. Physica A: Statistical Mechanics and Its Applications, 2000, 281, 112-128.	1.2	23
74	Lattice-switch Monte Carlo method. Physical Review E, 2000, 61, 906-919.	0.8	75
75	Freezing by Monte Carlo Phase Switch. Physical Review Letters, 2000, 85, 5138-5141.	2.9	82
76	Effects of confinement on critical adsorption: Absence of critical depletion for fluids in slit pores. Physical Review E, 1999, 60, 7105-7119.	0.8	13
77	Absence of simulation evidence for critical depletion in slit pores. Physical Review E, 1999, 60, 1081-1083.	0.8	19
78	Critical-point finite-size scaling in the microcanonical ensemble. Physical Review E, 1999, 60, 3748-3760.	0.8	13
79	Recoil growth: An efficient simulation method for multi-polymer systems. Journal of Chemical Physics, 1999, 110, 3220-3228.	1.2	52
80	Liquid-vapor phase behavior of a symmetrical binary fluid mixture. Physical Review E, 1998, 58, 2201-2212.	0.8	119
81	A liquid-state theory that remains successful in the critical region. Molecular Physics, 1998, 95, 483-494.	0.8	93
82	Effect of criticality on wetting layers: A Monte Carlo simulation study. Physical Review E, 1998, 57, 5795-5801.	0.8	12
83	A liquid-state theory that remains successful in the critical region. Molecular Physics, 1998, 95, 483-494.	0.8	47
84	Simulation studies of fluid critical behaviour. Journal of Physics Condensed Matter, 1997, 9, 585-612.	0.7	109
85	Coexistence Curve Singularities at Critical End Points. Physical Review Letters, 1997, 78, 1488-1491.	2.9	44
86	Critical end point behavior in a binary fluid mixture. Physical Review E, 1997, 55, 6624-6631.	0.8	56
87	Evaluation of Free Energy Differences Between Crystalline Phases Using the Lattice-Switch Monte Carlo Method. Materials Research Society Symposia Proceedings, 1997, 499, 253.	0.1	1
88	Free Energy of Crystalline Solids: A Lattice-Switch Monte Carlo Method. Physical Review Letters, 1997, 79, 3002-3005.	2.9	181
89	Polymeric Alloys: Model Materials for the Understanding of the Statistical Thermodynamics of Mixtures. , 1997, , 197-206.		0
90	Finite-size scaling for near-critical continuum fluids at constant pressure. Physica A: Statistical Mechanics and Its Applications, 1996, 231, 439-447.	1.2	34

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91	Chain length dependence of the polymerâ€“solvent critical point parameters. Journal of Chemical Physics, 1996, 105, 802-809.	1.2	114
92	Tricritical universality in a two-dimensional spin fluid. Physical Review E, 1996, 53, 926-934.	0.8	92
93	ERRORS IN MONTE CARLO SIMULATIONS USING SHIFT REGISTER RANDOM NUMBER GENERATORS. International Journal of Modern Physics C, 1996, 06, 781-787.	0.8	32
94	Tricritical phenomena in a two-dimensional fluid. Journal of Physics Condensed Matter, 1996, 8, 9637-9641.	0.7	4
95	Are critical finite-size scaling functions calculable from knowledge of an appropriate critical exponent?. Journal of Physics A, 1995, 28, L281-L286.	1.6	49
96	Concentration and energy fluctuations in a critical polymer mixture. Physical Review E, 1995, 51, 2079-2089.	0.8	51
97	Liquidâ€“vapor asymmetry in pure fluids: A Monte Carlo simulation study. Journal of Chemical Physics, 1995, 102, 2562-2573.	1.2	46
98	Critical-point and coexistence-curve properties of the Lennard-Jones fluid: A finite-size scaling study. Physical Review E, 1995, 52, 602-611.	0.8	410
99	Domain growth and finite-size-scaling in the kinetic Ising model. European Physical Journal B, 1994, 94, 301-309.	0.6	5
100	A Monte Carlo study of the Ising model with uniaxial anisotropy. Journal of Magnetism and Magnetic Materials, 1994, 135, 51-56.	1.0	0
101	Accurate measurements of the chemical potential of polymeric systems by Monte Carlo simulation. Journal of Chemical Physics, 1994, 101, 4324-4330.	1.2	93
102	Structural studies of cyclohexane IV. Acta Crystallographica Section B: Structural Science, 1993, 49, 320-328.	1.8	24
103	Critical point field mixing in an asymmetric lattice gas model. European Physical Journal B, 1993, 93, 119-125.	0.6	16
104	Density fluctuations and field mixing in the critical fluid. Journal of Physics Condensed Matter, 1992, 4, 3087-3108.	0.7	204
105	Scaling fields and universality of the liquid-gas critical point. Physical Review Letters, 1992, 68, 193-196.	2.9	213
106	Scientific modeling with massively parallel SIMD computers. Proceedings of the IEEE, 1991, 79, 574-585.	16.4	30
107	High-pressure phases of cyclohexane-d 12. Acta Crystallographica Section B: Structural Science, 1991, 47, 797-806.	1.8	11
108	Pressure dependence of the structure of La-Sr-Cu-O. Physica C: Superconductivity and Its Applications, 1990, 166, 329-333.	0.6	25