

Ian Ford

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125
papers

1,866
citations

24
h-index

39
g-index

145
ext. papers

2,052
ext. citations

3.9
avg, IF

5.06
L-index

#	Paper	IF	Citations
125	Growth of epitaxial graphene: Theory and experiment. <i>Physics Reports</i> , 2014 , 542, 195-295	27.7	196
124	Nucleation theorems, the statistical mechanics of molecular clusters, and a revision of classical nucleation theory. <i>Physical Review E</i> , 1997 , 56, 5615-5629	2.4	137
123	Statistical mechanics of nucleation: A review. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2004 , 218, 883-899	1.3	80
122	Entropy production in full phase space for continuous stochastic dynamics. <i>Physical Review E</i> , 2012 , 85, 051113	2.4	79
121	Revised parametrization of the Dillmann-Meier theory of homogeneous nucleation. <i>Physical Review E</i> , 1994 , 49, 5517-5524	2.4	73
120	Thermodynamic properties of critical clusters from measurements of vapour-liquid homogeneous nucleation rates. <i>Journal of Chemical Physics</i> , 1996 , 105, 8324-8332	3.9	65
119	Nonequilibrium thermodynamics of stochastic systems with odd and even variables. <i>Physical Review Letters</i> , 2012 , 108, 170603	7.4	64
118	Roughness effect on friction for multi-asperity contact between surfaces. <i>Journal Physics D: Applied Physics</i> , 1993 , 26, 2219-2225	3	54
117	Nanoscale stiffness topography reveals structure and mechanics of the transport barrier in intact nuclear pore complexes. <i>Nature Nanotechnology</i> , 2015 , 10, 60-64	28.7	47
116	Surface thermodynamics of planar, cylindrical, and spherical vapour-liquid interfaces of water. <i>Journal of Chemical Physics</i> , 2015 , 142, 114701	3.9	47
115	Critical cluster size and droplet nucleation rate from growth and decay simulations of Lennard-Jones clusters. <i>Journal of Chemical Physics</i> , 2000 , 112, 4193-4202	3.9	40
114	Energy fluctuations in homogeneous nucleation theory for aerosols. <i>Journal of Physics A</i> , 1993 , 26, 529-548		40
113	Modification of the Dillmann-Meier theory of homogeneous nucleation. <i>Journal of Chemical Physics</i> , 1993 , 99, 764-765	3.9	40
112	Gas-to-particle conversion in the atmosphere: II. Analytical models of nucleation bursts. <i>Atmospheric Environment</i> , 1999 , 33, 489-499	5.3	39
111	The microphysical pathway to contrail formation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015 , 120, 7893-7927	4.4	32
110	Innovative materials for fusion power plant structures: separating functions. <i>Journal of Physics Condensed Matter</i> , 2004 , 16, S2597-S2621	1.8	32
109	Diamond Films: Recent Developments in Theory and Practice. <i>MRS Bulletin</i> , 1998 , 23, 28-31	3.2	32

108	Bistable collective behavior of polymers tethered in a nanopore. <i>Physical Review E</i> , 2012 , 85, 061917	2.4	31
107	Imperfect vapour-gas mixtures and homogeneous nucleation. <i>Journal of Aerosol Science</i> , 1992 , 23, 447-455	3.5	28
106	The laminar flow tube reactor as a quantitative tool for nucleation studies: Experimental results and theoretical analysis of homogeneous nucleation of dibutylphthalate. <i>Journal of Chemical Physics</i> , 2000 , 113, 3704-3718	3.9	27
105	Nucleation theorems applied to the Ising model. <i>Physical Review E</i> , 1999 , 59, 6483-8	2.4	26
104	2013 ,		25
103	The electromagnetic properties of nanoparticle colloids at radio and microwave frequencies. <i>Journal Physics D: Applied Physics</i> , 2007 , 40, 5331-5337	3	24
102	A dynamical definition of quasibound molecular clusters. <i>Journal of Chemical Physics</i> , 2003 , 118, 9216-9223	3.3	24
101	Ethylene decomposition on Ir(111): initial path to graphene formation. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 27897-27909	3.6	24
100	Physical modelling of the nuclear pore complex. <i>Soft Matter</i> , 2013 , 9, 10442	3.6	23
99	Model inspired by nuclear pore complex suggests possible roles for nuclear transport receptors in determining its structure. <i>Biophysical Journal</i> , 2013 , 105, 2781-9	2.9	22
98	A cavity model of the indentation hardness of a coated substrate. <i>Thin Solid Films</i> , 1994 , 245, 122-131	2.2	22
97	Interpretation of friction and wear properties of MoS ₂ coated steel substrates. <i>Wear</i> , 1994 , 177, 93-101	3.5	21
96	Gas-to-particle conversion in the atmosphere: I. Evidence from empirical atmospheric aerosols. <i>Atmospheric Environment</i> , 1999 , 33, 475-487	5.3	20
95	The effects of temperature fluctuations in homogeneous nucleation theory. <i>Journal of Physics A</i> , 1989 , 22, 4007-4018		18
94	Entropy production from stochastic dynamics in discrete full phase space. <i>Physical Review E</i> , 2012 , 86, 021127	2.4	17
93	Molecular cluster decay viewed as escape from a potential of mean force. <i>Journal of Chemical Physics</i> , 2004 , 120, 4428-40	3.9	17
92	Particle production in the outflow of a midlatitude storm. <i>Journal of Geophysical Research</i> , 2002 , 107, AAC 5-1-AAC 5-9		17
91	Uncertainties in cluster energies in homogeneous nucleation theory. <i>Journal of Aerosol Science</i> , 1993 , 24, 581-588	4.3	17

- 90 Analysis of water-ethanol nucleation rate data with two component nucleation theorems. *Journal of Chemical Physics*, **2000**, 113, 3261-3269 3.9 16
- 89 Model of the competitive growth of amorphous carbon and diamond films. *Journal of Applied Physics*, **1995**, 78, 510-513 2.5 14
- 88 Stochastic approach to chemical kinetics in ultrafine aerosols. *Journal of Aerosol Science*, **2003**, 34, 1117-1133 4.3 13
- 87 Water droplet excess free energy determined by cluster mitosis using guided molecular dynamics. *Journal of Chemical Physics*, **2015**, 143, 244709 3.9 12
- 86 Boundaries of the diamond domain in the C - H - O diagram of carbon film deposition. *Journal Physics D: Applied Physics*, **1996**, 29, 2229-2234 3 12
- 85 The dielectric properties of charged nanoparticle colloids at radio and microwave frequencies. *Journal Physics D: Applied Physics*, **2004**, 37, 318-325 3 12
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- 83 Microscopic simulations of molecular cluster decay: Does the carrier gas affect evaporation?. *Journal of Chemical Physics*, **2006**, 125, 144316 3.9 11
- 82 Kinetics of heterogeneous nucleation for low mean cluster populations. *Journal of Chemical Physics*, **2003**, 118, 3166-3176 3.9 11
- 81 Phase coexistence in colloidal suspensions: an analytic Poisson-Boltzmann treatment. *Physical Review E*, **2001**, 63, 031403 2.4 11
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- 79 A statistical mechanical approach to heterogeneous nucleation. *Journal of Chemical Physics*, **1993**, 99, 5426-5429 3.9 11
- 78 Modelling the effect of acoustic waves on nucleation. *Journal of Chemical Physics*, **2016**, 145, 024315 3.9 11
- 77 Stochastic entropy production arising from nonstationary thermal transport. *Physical Review E*, **2015**, 92, 042108 2.4 10
- 76 Investigation of MgO as a candidate for the primary nucleating dust species around M stars. *Monthly Notices of the Royal Astronomical Society*, **2007**, 382, 291-298 4.3 10
- 75 Virial/Fisher models of molecular cluster populations. *Journal of Chemical Physics*, **1997**, 106, 9734-9741 3.9 9
- 74 Analytic and numerical calculations of the formation of a sulphuric acid aerosol in the upper troposphere. *Journal of Aerosol Science*, **2006**, 37, 1717-1729 4.3 9
- 73 Excess energies of n- and i-octane molecular clusters. *Journal of Chemical Physics*, **2001**, 114, 5509-5513 3.9 9

72	A free energy study of carbon clusters on Ir(111): Precursors to graphene growth. <i>Journal of Chemical Physics</i> , 2017 , 146, 044702	3.9	8
71	Intrinsically disordered nuclear pore proteins show ideal-polymer morphologies and dynamics. <i>Physical Review E</i> , 2020 , 101, 022420	2.4	8
70	A classical reactive potential for molecular clusters of sulphuric acid and water. <i>Molecular Physics</i> , 2016 , 114, 172-185	1.7	8
69	Properties of Ice Clusters from an Analysis of Freezing Nucleation \square <i>Journal of Physical Chemistry B</i> , 2001 , 105, 11649-11655	3.4	8
68	Free energies of molecular clusters determined by guided mechanical disassembly. <i>Physical Review E</i> , 2015 , 91, 023308	2.4	6
67	Measures of thermodynamic irreversibility in deterministic and stochastic dynamics. <i>New Journal of Physics</i> , 2015 , 17, 075017	2.9	6
66	Symmetries of cyclic work distributions for an isolated harmonic oscillator. <i>European Journal of Physics</i> , 2012 , 33, 1789-1801	0.8	6
65	Energetics of small n-pentanol clusters from droplet nucleation rate data. <i>Journal of Chemical Physics</i> , 2000 , 112, 5393-5398	3.9	6
64	Comment on "Nucleation of C60 clusters". <i>Physical Review Letters</i> , 1992 , 69, 387	7.4	6
63	Intergranular fracture of fast reactor irradiated stainless steel. <i>Acta Metallurgica Et Materialia</i> , 1992 , 40, 113-122		6
62	Sodium aerosol formation and removal mechanisms in the fast reactor cover gas space. <i>Journal of Aerosol Science</i> , 1993 , 24, 237-253	4.3	6
61	Coagulation kinetics beyond mean field theory using an optimised Poisson representation. <i>Journal of Chemical Physics</i> , 2015 , 142, 194112	3.9	5
60	Becker-DeGong rate equations for heterogeneous nucleation, with direct vapour deposition and surface diffusion mechanisms. <i>Atmospheric Research</i> , 2011 , 101, 553-561	5.4	5
59	Spin-dependent potentials in pure QCD on a 324lattice. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1989 , 15, 1571-1589	2.9	5
58	Effects of rotational symmetry breaking in polymer-coated nanopores. <i>Journal of Chemical Physics</i> , 2015 , 142, 034901	3.9	4
57	Work relations for a system governed by Tsallis statistics. <i>Physical Review E</i> , 2015 , 92, 022143	2.4	4
56	Fluctuation Relations: A Pedagogical Overview 2013 , 3-56		4
55	On the Dillmann-Meier theory of nucleation. <i>Journal of Aerosol Science</i> , 1992 , 23, 125-128	4.3	4

54	Spin-orbit forces in P-wave baryons from a three-quark flux-tube potential. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1989 , 15, 1641-1651	2.9	4
53	Optimization algorithm for rate equations with an application to epitaxial graphene. <i>Journal of Physics Condensed Matter</i> , 2014 , 26, 185008	1.8	3
52	Kinetic stability of complex molecular clusters. <i>Journal of Chemical Physics</i> , 2006 , 124, 044318	3.9	3
51	Surface tension and nucleation rate of phases of a charged colloidal suspension. <i>Physical Review E</i> , 2002 , 65, 061401	2.4	3
50	Rupture of pressurised tubes by multiple cracking and fragmentation. <i>International Journal of Pressure Vessels and Piping</i> , 1994 , 57, 21-29	2.4	3
49	Axial crack propagation in fuel pin cladding tubes. <i>Nuclear Engineering and Design</i> , 1992 , 136, 243-254	1.8	3
48	Maximum aerosol densities from evaporation/condensation processes. <i>Journal of Aerosol Science</i> , 1989 , 20, 293-302	4.3	3
47	Dichroic Calcite Reveals the Pathway from Additive Binding to Occlusion. <i>Crystal Growth and Design</i> , 2021 , 21, 3746-3755	3.5	3
46	Magnesium-rich nanoprecipitates in calcite: atomistic mechanisms responsible for toughening in <i>Ophiocoma wendtii</i> . <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 10056-10062	3.6	2
45	Exactly thermalized quantum dynamics of the spin-boson model coupled to a dissipative environment. <i>Physical Review B</i> , 2020 , 101,	3.3	2
44	Maxwell's demon and the management of ignorance in stochastic thermodynamics. <i>Contemporary Physics</i> , 2016 , 57, 309-330	3.3	2
43	Investigating the significance of zero-point motion in small molecular clusters of sulphuric acid and water. <i>Journal of Chemical Physics</i> , 2014 , 140, 024306	3.9	2
42	Mixing of atmospheric gas concentrations. <i>Physical Review Letters</i> , 2000 , 84, 4010-3	7.4	2
41	Elastic relaxation of indented coated substrates using a coated cavity model. <i>Surface and Coatings Technology</i> , 1994 , 67, 119-123	4.4	2
40	Transgranular fracture of Fast Reactor irradiated stainless steel. <i>Journal of Nuclear Materials</i> , 1991 , 182, 52-59	3.3	2
39	The homogeneous nucleation of aerosols. <i>Journal of Aerosol Science</i> , 1989 , 20, 1015-1018	4.3	2
38	Stochastic Birth and Death Equations to Treat Chemistry and Nucleation in Small Systems 2007 , 332-336		2
37	Dynamical consequences of a constraint on the Langevin thermostat in molecular cluster simulation. <i>Molecular Physics</i> , 2014 , 112, 2920-2923	1.7	1

36	Statistical Models of Entropy 2013 , 119-135		1
35	Maximum entropy principle for stationary states underpinned by stochastic thermodynamics. <i>Physical Review E</i> , 2015 , 92, 052142	2.4	1
34	The dielectric properties of charged nanoparticle colloids at radio and microwave frequencies: high frequency relaxation. <i>Journal Physics D: Applied Physics</i> , 2008 , 41, 015302	3	1
33	Prediction of coupled heat and mass transfer in the Fast Reactor cover gas: the C-GAS code. <i>Nuclear Engineering and Design</i> , 1993 , 140, 159-192	1.8	1
32	Energy dependence of rate coefficients in nucleation theory. <i>Journal of Aerosol Science</i> , 1991 , 22, S55-S58	4.3	1
31	Aerosol formation in tube flow. <i>Journal of Aerosol Science</i> , 1988 , 19, 817-820	4.3	1
30	Critical Step Length as an Indicator of Surface Supersaturation during Crystal Growth from Solution.. <i>Crystal Growth and Design</i> , 2022 , 22, 982-986	3.5	1
29	Free energy of formation of clusters of sulphuric acid and water molecules determined by guided disassembly. <i>Molecular Simulation</i> , 2016 , 42, 1125-1134	2	1
28	Boson Gas 155-167		1
27	Efficient choice of colored noise in the stochastic dynamics of open quantum systems. <i>Physical Review E</i> , 2020 , 102, 062134	2.4	0
26	Phase-field method for epitaxial kinetics on surfaces. <i>Journal of Chemical Physics</i> , 2018 , 149, 194107	3.9	0
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24	Fluctuation Relations 2013 , 241-253		
23	Thermodynamics away from Equilibrium 2013 , 213-223		
22	Thermodynamics of attractive hard rods: a test of mean field density functional theory. <i>Journal of Chemical Physics</i> , 2004 , 121, 5081-90	3.9	
21	Rupture and fragmentation of pressurized pipes and fast reactor fuel pins. <i>Nuclear Engineering and Design</i> , 1995 , 156, 401-410	1.8	
20	A model of hollow particle production by a sol-gel process. <i>Journal of Aerosol Science</i> , 1996 , 27, S389-S393	4.3	
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- 18 Pure and mixed state calculations of the laser-induced ionization of uranium. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1993**, 26, 1569-1578 1.3
- 17 Growth of Diamond Films from C-H-O Mixtures. *Materials Research Society Symposia Proceedings*, **1995**, 416, 19
- 16 The development of the enpanne code to model failed fast reactor fuel pins. *Journal of Nuclear Materials*, **1993**, 204, 180-187 3.3
- 15 Stochastic entropy production in diffusive systems. *Journal of Physics A: Mathematical and Theoretical*, **2020**, 53, 255001 2
- 14 Statistical Thermodynamics of a System of Harmonic Oscillators 81-93
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