

Anthony J C Ladd

List of Publications by Year in descending order

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67
papers

9,237
citations

109137

35
h-index

102304

66
g-index

68
all docs

68
docs citations

68
times ranked

5133
citing authors

#	ARTICLE	IF	CITATIONS
1	Numerical simulations of particulate suspensions via a discretized Boltzmann equation. Part 1. Theoretical foundation. <i>Journal of Fluid Mechanics</i> , 1994, 271, 285-309.	1.4	1,938
2	New Monte Carlo method to compute the free energy of arbitrary solids. Application to the fcc and hcp phases of hard spheres. <i>Journal of Chemical Physics</i> , 1984, 81, 3188-3193.	1.2	1,060
3	Numerical simulations of particulate suspensions via a discretized Boltzmann equation. Part 2. Numerical results. <i>Journal of Fluid Mechanics</i> , 1994, 271, 311-339.	1.4	1,026
4	High-Strain-Rate Plastic Flow Studied via Nonequilibrium Molecular Dynamics. <i>Physical Review Letters</i> , 1982, 48, 1818-1820.	2.9	506
5	Moderate-Reynolds-number flows in ordered and random arrays of spheres. <i>Journal of Fluid Mechanics</i> , 2001, 448, 243-278.	1.4	419
6	Nonequilibrium molecular dynamics via Gauss's principle of least constraint. <i>Physical Review A</i> , 1983, 28, 1016-1021.	1.0	400
7	The first effects of fluid inertia on flows in ordered and random arrays of spheres. <i>Journal of Fluid Mechanics</i> , 2001, 448, 213-241.	1.4	352
8	Hydrodynamic transport coefficients of random dispersions of hard spheres. <i>Journal of Chemical Physics</i> , 1990, 93, 3484-3494.	1.2	328
9	Lattice thermal conductivity: A comparison of molecular dynamics and anharmonic lattice dynamics. <i>Physical Review B</i> , 1986, 34, 5058-5064.	1.1	313
10	Lennard-Jones triple-point bulk and shear viscosities. Green-Kubo theory, Hamiltonian mechanics, and nonequilibrium molecular dynamics. <i>Physical Review A</i> , 1980, 22, 1690-1697.	1.0	290
11	Moderate Reynolds number flows through periodic and random arrays of aligned cylinders. <i>Journal of Fluid Mechanics</i> , 1997, 349, 31-66.	1.4	237
12	Hydrodynamic interactions in a suspension of spherical particles. <i>Journal of Chemical Physics</i> , 1988, 88, 5051-5063.	1.2	148
13	Finite-element modeling of trabecular bone: Comparison with mechanical testing and determination of tissue modulus. <i>Journal of Orthopaedic Research</i> , 1998, 16, 622-628.	1.2	148
14	Rheology of suspensions with high particle inertia and moderate fluid inertia. <i>Journal of Fluid Mechanics</i> , 2003, 480, 95-118.	1.4	127
15	Dynamical simulations of sedimenting spheres. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 299-310.	1.6	113
16	Hydrodynamic Screening in Sedimenting Suspensions of non-Brownian Spheres. <i>Physical Review Letters</i> , 1996, 76, 1392-1395.	2.9	111
17	Sedimentation of hard-sphere suspensions at low Reynolds number. <i>Journal of Fluid Mechanics</i> , 2005, 525, 73-104.	1.4	109
18	Flow-induced migration of polymers in dilute solution. <i>Physics of Fluids</i> , 2006, 18, 031703.	1.6	85

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19	Bulk viscosity via nonequilibrium and equilibrium molecular dynamics. <i>Physical Review A</i> , 1980, 21, 1756-1760.	1.0	79
20	Location of melting point at 300 K of nitrogen by Monte Carlo simulation. <i>Journal of Chemical Physics</i> , 1990, 92, 7570-7575.	1.2	75
21	Reactive-infiltration instabilities in rocks. Fracture dissolution. <i>Journal of Fluid Mechanics</i> , 2012, 702, 239-264.	1.4	72
22	Simulation of mineral dissolution at the pore scale with evolving fluid-solid interfaces: review of approaches and benchmark problem set. <i>Computational Geosciences</i> , 2021, 25, 1285-1318.	1.2	72
23	Elastic constants of hard-sphere crystals. <i>Physical Review Letters</i> , 1987, 59, 1169-1169.	2.9	70
24	Deformation and failure in cellular materials. <i>Physical Review E</i> , 1997, 55, 3271-3275.	0.8	64
25	Application of lattice-gas cellular automata to the Brownian motion of solids in suspension. <i>Physical Review Letters</i> , 1988, 60, 975-978.	2.9	60
26	Initial conditions or emergence: What determines dissolution patterns in rough fractures?. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 6102-6121.	1.4	59
27	Time-Dependent Collective Diffusion of Colloidal Particles. <i>Physical Review Letters</i> , 1995, 74, 318-321.	2.9	58
28	Reactive-infiltration instabilities in rocks. Part 2. Dissolution of a porous matrix. <i>Journal of Fluid Mechanics</i> , 2014, 738, 591-630.	1.4	58
29	Three-dimensional simulations of fracture dissolution. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 6421-6444.	1.4	58
30	Transverse Migration of a Confined Polymer Driven by an External Force. <i>Physical Review Letters</i> , 2007, 98, 098301.	2.9	57
31	Temporal and spatial dependence of hydrodynamic correlations: Simulation and experiment. <i>Physical Review E</i> , 1995, 52, 6550-6572.	0.8	49
32	Hydrodynamic interactions and the viscosity of suspensions of freely moving spheres. <i>Journal of Chemical Physics</i> , 1989, 90, 1149-1157.	1.2	48
33	The Development of Wormholes in Laboratory-Scale Fractures: Perspectives From Three-Dimensional Simulations. <i>Water Resources Research</i> , 2018, 54, 7946-7959.	1.7	42
34	Lorentz gas shear viscosity via nonequilibrium molecular dynamics and Boltzmann's equation. <i>Journal of Statistical Physics</i> , 1985, 38, 973-988.	0.5	39
35	Kinetic theory of a confined polymer driven by an external force and pressure-driven flow. <i>Physics of Fluids</i> , 2007, 19, .	1.6	36
36	Self-diffusion of colloidal particles in a two-dimensional suspension: Are deviations from Fick's law experimentally observable?. <i>Physical Review Letters</i> , 1991, 67, 3459-3462.	2.9	34

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37	Comparison of lattice-Boltzmann and Brownian-dynamics simulations of polymer migration in confined flows. <i>Physical Review E</i> , 2010, 82, 011802.	0.8	30
38	Structural relaxation in dense hard-sphere fluids. <i>Journal of Statistical Physics</i> , 1987, 48, 1147-1156.	0.5	28
39	Comparison of the static and dynamic properties of a semiflexible polymer using lattice Boltzmann and Brownian-dynamics simulations. <i>Physical Review E</i> , 2009, 80, 036704.	0.8	28
40	Dissipative hydrodynamic interactions via lattice-gas cellular automata. <i>Physics of Fluids A, Fluid Dynamics</i> , 1990, 2, 1921-1924.	1.6	25
41	Lattice-Boltzmann methods for suspensions of solid particles. <i>Molecular Physics</i> , 2015, 113, 2531-2537.	0.8	25
42	Reactive Flows in Porous Media: Challenges in Theoretical and Numerical Methods. <i>Annual Review of Chemical and Biomolecular Engineering</i> , 2021, 12, 543-571.	3.3	25
43	Role of hydrodynamic interactions in the migration of polyelectrolytes driven by a pressure gradient and an electric field. <i>Physical Review E</i> , 2010, 82, 050803.	0.8	24
44	Energy and entropy of interacting dislocations. <i>Physical Review B</i> , 1982, 26, 5469-5479.	1.1	23
45	Plastic flow in close-packed crystals via nonequilibrium molecular dynamics. <i>Physical Review B</i> , 1983, 28, 1756-1762.	1.1	22
46	Axial Segregation in a Cylindrical Centrifuge. <i>Physical Review Letters</i> , 2002, 89, 104301.	2.9	22
47	Transient Pinning and Pulling: A Mechanism for Bending Microtubules. <i>PLoS ONE</i> , 2016, 11, e0151322.	1.1	22
48	Mechanics of Vorticella Contraction. <i>Biophysical Journal</i> , 2010, 98, 2923-2932.	0.2	21
49	Time-dependent shapes of a dissolving mineral grain: Comparisons of simulations with microfluidic experiments. <i>Chemical Geology</i> , 2020, 540, 119459.	1.4	19
50	Transverse migration of polyelectrolytes in microfluidic channels induced by combined shear and electric fields. <i>Soft Matter</i> , 2015, 11, 4375-4382.	1.2	18
51	Electro-hydrodynamic concentration of genomic length DNA. <i>Soft Matter</i> , 2016, 12, 6975-6984.	1.2	17
52	Computer simulation studies of static and dynamical scaling in dilute solutions of excluded-volume polymers. <i>Macromolecules</i> , 1992, 25, 3435-3438.	2.2	16
53	Trapping DNA with a high throughput microfluidic device. <i>Electrophoresis</i> , 2019, 40, 437-446.	1.3	14
54	High-pressure mechanical instability in close-packed Hookean crystals. <i>Journal of Chemical Physics</i> , 1981, 74, 1337-1339.	1.2	13

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55	Particle dynamics and pattern formation in a rotating suspension. <i>Journal of Fluid Mechanics</i> , 2007, 577, 183-209.	1.4	13
56	Fluctuating Motor Forces Bend Growing Microtubules. <i>Cellular and Molecular Bioengineering</i> , 2013, 6, 120-129.	1.0	13
57	Synchronization of dissolution and precipitation fronts during infiltration-driven replacement in porous rocks. <i>Geophysical Research Letters</i> , 2015, 42, 2244-2252.	1.5	13
58	Dissolution of a cylindrical disk in Hele-Shaw flow: a conformal-mapping approach. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	1.4	13
59	Use and misuse of large-density asymptotics in the reaction-infiltration instability. <i>Water Resources Research</i> , 2017, 53, 2419-2430.	1.7	12
60	Decay of angular correlations in hard-sphere fluids. <i>Journal of Statistical Physics</i> , 1989, 57, 473-482.	0.5	10
61	Transverse migration and microfluidic concentration of DNA using Newtonian buffers. <i>Biomicrofluidics</i> , 2019, 13, 044104.	1.2	9
62	Instabilities and finger formation in replacement fronts driven by an oversaturated solution. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 5972-5991.	1.4	7
63	A computer simulation study of multiphase squeezing flows. <i>Physics of Fluids</i> , 2002, 14, 1631-1641.	1.6	6
64	Electro-hydrodynamic extraction of DNA from mixtures of DNA and bovine serum albumin. <i>Analyst</i> , 2020, 145, 5532-5538.	1.7	5
65	A symplectic integration method for elastic filaments. <i>Journal of Chemical Physics</i> , 2009, 130, 124909.	1.2	2
66	Capillary-assembled straight microfluidic devices. <i>RSC Advances</i> , 2014, 4, 1083-1086.	1.7	2
67	Discussion of "Analytical Solution for Dissolution-Timescale Reactive Transport in Fluid-Saturated Porous Rocks" by Chongbin Zhao, B. E. Hobbs, and A. Ord. <i>International Journal of Geomechanics</i> , 2019, 19, 07019003.	1.3	0