Steven J Plimpton

List of Publications by Year
in descending order

55	45,713	126858	161767
papers	citations	33 h-index	54 g-index

56	56	56	30327
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	LAMMPS - a flexible simulation tool for particle-based materials modeling at the atomic, meso, and continuum scales. Computer Physics Communications, 2022, 271, 108171.	3.0	3,106
2	Rendezvous algorithms for large-scale modeling and simulation. Journal of Parallel and Distributed Computing, 2021, 147, 184-195.	2.7	3
3	Classical molecular dynamics. Journal of Chemical Physics, 2021, 154, 100401.	1.2	28
4	Granular packings with sliding, rolling, and twisting friction. Physical Review E, 2020, 102, 032903.	0.8	31
5	Parallel algorithms for hyperdynamics and local hyperdynamics. Journal of Chemical Physics, 2020, 153, 054116.	1.2	9
6	Aspherical particle models for molecular dynamics simulation. Computer Physics Communications, 2019, 243, 12-24.	3.0	22
7	Effect of shape and friction on the packing and flow of granular materials. Physical Review E, 2018, 98, .	0.8	42
8	Massively parallel symplectic algorithm for coupled magnetic spin dynamics and molecular dynamics. Journal of Computational Physics, 2018, 372, 406-425.	1.9	76
9	Highly scalable discrete-particle simulations with novel coarse-graining: accessing the microscale. Molecular Physics, 2018, 116, 2061-2069.	0.8	16
10	A historical survey of algorithms and hardware architectures for neural-inspired and neuromorphic computing applications. Biologically Inspired Cognitive Architectures, 2017, 19, 49-64.	0.9	54
11	Liâ€ion Synaptic Transistor for Low Power Analog Computing. Advanced Materials, 2017, 29, 1604310.	11.1	425
12	Oxygen Modulates the Effectiveness of Granuloma Mediated Host Response to Mycobacterium tuberculosis: A Multiscale Computational Biology Approach. Frontiers in Cellular and Infection Microbiology, 2016, 6, 6.	1.8	40
13	Increasing Molecular Dynamics Simulation Rates with an 8-Fold Increase in Electrical Power Efficiency. , 2016, , .		3
14	Accelerating dissipative particle dynamics simulations for soft matter systems. Computational Materials Science, 2015, 100, 173-180.	1.4	38
15	Optimizing legacy molecular dynamics software with directive-based offload. Computer Physics Communications, 2015, 195, 95-101.	3.0	32
16	Streaming data analytics via message passing with application to graph algorithms. Journal of Parallel and Distributed Computing, 2014, 74, 2687-2698.	2.7	12
17	Particle dynamics modeling methods for colloid suspensions. Computational Particle Mechanics, 2014, 1, 321-356.	1.5	124
18	Developing community codes for materials modeling. Current Opinion in Solid State and Materials Science, 2013, 17, 271-276.	5.6	7

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19	No-slip boundary conditions and forced flow in multiparticle collision dynamics. Physical Review E, 2012, 86, 066703.	0.8	28
20	Computational aspects of many-body potentials. MRS Bulletin, 2012, 37, 513-521.	1.7	278
21	Implementing molecular dynamics on hybrid high performance computers â€“ Particleâ€“particle particle-mesh. Computer Physics Communications, 2012, 183, 449-459.	3.0	373
22	Evaporation of Lennard-Jones fluids. Journal of Chemical Physics, 2011, 134, 224704.	1.2	96
23	MapReduce in MPI for Large-scale graph algorithms. Parallel Computing, 2011, 37, 610-632.	1.3	162
24	Implementing molecular dynamics on hybrid high performance computers â€“ short range forces. Computer Physics Communications, 2011, 182, 898-911.	3.0	549
25	Software components for parallel multiscale simulation: an example with LAMMPS. Engineering With Computers, 2010, 26, 205-211.	3.5	68
26	Mesoscale hydrodynamics via stochastic rotation dynamics: Comparison with Lennard-Jones fluid. Journal of Chemical Physics, 2010, 132, 174106.	1.2	40
27	General formulation of pressure and stress tensor for arbitrary many-body interaction potentials under periodic boundary conditions. Journal of Chemical Physics, 2009, 131, 154107.	1.2	707
28	Liquid crystal nanodroplets in solution. Journal of Chemical Physics, 2009, 130, 044901.	1.2	73
29	Implementing peridynamics within a molecular dynamics code. Computer Physics Communications, 2008, 179, 777-783.	3.0	260
30	Accurate and efficient methods for modeling colloidal mixtures in an explicit solvent using molecular dynamics. Computer Physics Communications, 2008, 179, 320-329.	3.0	70
31	Substructured molecular dynamics using multibody dynamics algorithms. International Journal of Non-Linear Mechanics, 2008, 43, 1040-1055.	1.4	31
32	Computing the mobility of grain boundaries. Nature Materials, 2006, 5, 124-127.	13.3	222
33	ParallelS_nSweeps on Unstructured Grids: Algorithms for Prioritization, Grid Partitioning, and Cycle Detection. Nuclear Science and Engineering, 2005, 150, 267-283.	0.5	35
34	Finding strongly connected components in distributed graphs. Journal of Parallel and Distributed Computing, 2005, 65, 901-910.	2.7	73
35	Feature length-scale modeling of LPCVD and PECVD MEMS fabrication processes. Microsystem Technologies, 2005, 12, 137-142.	1.2	6
36	Discrete element simulations of stress distributions in silos: crossover from two to three dimensions. Powder Technology, 2004, 139, 233-239.	2.1	56

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37	Effect of end-tethered polymers on surface adhesion of glassy polymers. Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 199-208.	2.4	77
38	A parallel rendezvous algorithm for interpolation between multiple grids. Journal of Parallel and Distributed Computing, 2004, 64, 266-276.	2.7	34
39	Parallel Genehunter: implementation of a linkage analysis package for distributed-memory architectures. Journal of Parallel and Distributed Computing, 2003, 63, 674-682.	2.7	14
40	A load-balancing algorithm for a parallel electromagnetic particle-in-cell code. Computer Physics Communications, 2003, 152, 227-241.	3.0	28
41	Equilibration of long chain polymer melts in computer simulations. Journal of Chemical Physics, 2003, 119, 12718-12728.	1.2	465
42	Carbon Sequestration inSynechococcusSp.: From Molecular Machines to Hierarchical Modeling. OMICS A Journal of Integrative Biology, 2002, 6, 305-330.	1.0	9
43	Scalability and Performance of Two Large Linux Clusters. Journal of Parallel and Distributed Computing, 2001, 61, 1546-1569.	2.7	10
44	Parallel strategies for crash and impact simulations. Computer Methods in Applied Mechanics and Engineering, 2000, 184, 375-390.	3.4	64
45	Spatial correlations of mobility and immobility in a glass-forming Lennard-Jones liquid. Physical Review E, 1999, 60, 3107-3119.	0.8	455
46	The diffusion of simple penetrants in tangent site polymer melts. Journal of Chemical Physics, 1999, 111, 9822-9831.	1.2	7
47	Parallel Transient Dynamics Simulations: Algorithms for Contact Detection and Smoothed Particle Hydrodynamics. Journal of Parallel and Distributed Computing, 1998, 50, 104-122.	2.7	43
48	Molecular dynamics simulations of low-energy (25â€“200 eV) argon ion interactions with silicon surfaces: Sputter yields and product formation pathways. Journal of Applied Physics, 1998, 83, 4055-4063.	1.1	72
49	Stringlike Cooperative Motion in a Supercooled Liquid. Physical Review Letters, 1998, 80, 2338-2341.	2.9	846
50	The effect of attractions on the structure and thermodynamics of model polymer blends. Journal of Chemical Physics, 1997, 107, 4024-4032.	1.2	7
51	Dynamical Heterogeneities in a Supercooled Lennard-Jones Liquid. Physical Review Letters, 1997, 79, 2827-2830.	2.9	861
52	A new parallel method for molecular dynamics simulation of macromolecular systems. Journal of Computational Chemistry, 1996, 17, 326-337.	1.5	113
53	Fast Parallel Algorithms for Short-Range Molecular Dynamics. Journal of Computational Physics, 1995, 117, 1-19.	1.9	35,279
54	Computational limits of classical molecular dynamics simulations. Computational Materials Science, 1995, 4, 361-364.	1.4	105

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55	Molecular dynamics simulations of athermal polymer blends: Comparison with integral equation theory. Journal of Chemical Physics, 1995, 103, 1208-1215.	1.2	25