Jun Zhang

List of Publications by Year
in descending order

52 papers	1,227 citations	361413 20 h-index	395702 33 g-index
59 all docs	59 docs citations	59 times ranked	1001 citing authors

#	Article	IF	Citations
1	Using gene expression programming to discover macroscopic governing equations hidden in the data of molecular simulations. Physics of Fluids, 2022, 34, 057109.	4.0	5
2	Design and implementation of an innovative airborne electric propulsion measure system of fixed-wing UAV. Aerospace Science and Technology, 2021, 109, 106357.	4.8	9
3	Atomistic-scale investigations of hyperthermal oxygenâ€“graphene interactions via reactive molecular dynamics simulation: The gas effect. Physics of Fluids, 2021, 33, 052107.	4.0	9
4	A multiscale volume of fluid method with self-consistent boundary conditions derived from molecular dynamics. Physics of Fluids, 2021, 33, .	4.0	16
5	Non-intrusive reduced order modeling for flowfield reconstruction based on residual neural network. Acta Astronautica, 2021, 183, 346-362.	3.2	10
6	An efficient algorithm of the unified stochastic particle Bhatnagar-Gross-Krook method for the simulation of multi-scale gas flows. Advances in Aerodynamics, 2021, 3, .	2.5	9
7	A parameter-free physical model for gasâ€“surface interaction. Physics of Fluids, 2021, 33, .	4.0	10
8	Molecular simulation of Rayleigh-Brillouin scattering in binary gas mixtures and extraction of the rotational relaxation numbers. Physical Review E, 2021, 104, 035109.	2.1	11
9	Air film evolution during droplet impact onto a solid surface. Physics of Fluids, 2021, 33, .	4.0	8
10	Dynamics of droplet impacting on a cone. Physics of Fluids, 2021, 33, .	4.0	29
11	Theoretical derivation of slip boundary conditions for single-species gas and binary gas mixture. Physical Review E, 2021, 104, 055103.	2.1	9
12	A unified stochastic particle Bhatnagar-Gross-Krook method for multiscale gas flows. Journal of Computational Physics, 2020, 400, 108972.	3.8	37
13	Droplet jumping induced by coalescence of a moving droplet and a static one: Effect of initial velocity. Chemical Engineering Science, 2020, 211, 115252.	3.8	31
14	Conjugate solid-liquid phase change heat transfer in heatsink filled with phase change material-metal foam. International Journal of Heat and Mass Transfer, 2020, 146, 118832.	4.8	134
15	Competition of natural convection and thermal creep in a square enclosure. Physics of Fluids, 2020, 32, 102001.	4.0	19
16	A reactive molecular dynamics study of hyperthermal atomic oxygen erosion mechanisms for graphene sheets. Physics of Fluids, 2020, 32, .	4.0	20
17	Directional Transportation of Impacting Droplets on Wettability-Controlled Surfaces. Langmuir, 2020, 36, 5855-5862.	3.5	46
18	Two-step weighting method for constructing fourth-order hybrid central WENO scheme. Computers and Fluids, 2020, 207, 104590.	2.5	5

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19	A Benchmark Study of Kinetic Models for Shock Waves. AIAA Journal, 2020, 58, 2596-2608.	2.6	29
20	Data-driven discovery of governing equations for fluid dynamics based on molecular simulation. Journal of Fluid Mechanics, 2020, 892, .	3.4	43
21	Nanodroplets impact on surfaces decorated with ridges. Physical Review Fluids, 2020, 5, .	2.5	24
22	Hypersonic aerodynamics of a deformed aeroshell in continuum and near-continuum regimes. Aerospace Science and Technology, 2019, 93, 105296.	4.8	11
23	Particle-based hybrid and multiscale methods for nonequilibrium gas flows. Advances in Aerodynamics, 2019, 1, .	2.5	35
24	Multiscale investigation of Kolmogorov flow: From microscopic molecular motions to macroscopic coherent structures. Physics of Fluids, 2019, 31, .	4.0	10
25	Bubble formation in freezing droplets. Physical Review Fluids, 2019, 4, .	2.5	43
26	mdFoam+: Advanced molecular dynamics in OpenFOAM. Computer Physics Communications, 2018, 224, 1-21.	7.5	15
27	A parallelized hybrid N-S/DSMC-IP approach based on adaptive structured/unstructured overlapping grids for hypersonic transitional flows. Journal of Computational Physics, 2018, 371, 409-433.	3.8	11
28	A critical assessment of the line tension determined by the modified Youngâ€™s equation. Physics of Fluids, 2018, 30, .	4.0	44
29	A fast iterative scheme for the linearized Boltzmann equation. Journal of Computational Physics, 2017, 338, 431-451.	3.8	35
30	A Particle Fokker-Planck Algorithm with Multiscale Temporal Discretization for Rarefied and Continuum Gas Flows. Communications in Computational Physics, 2017, 22, 338-374.	1.7	25
31	Langevin equation elucidates the mechanism of the Rayleigh-BÃ©nard instability by coupling molecular motions and macroscopic fluctuations. Physical Review E, 2017, 96, 043104.	2.1	13
32	Deposition pattern and tracer particle motion of evaporating multi-component sessile droplets. Journal of Colloid and Interface Science, 2017, 506, 83-92.	9.4	22
33	Multiscale simulation of dynamic wetting. International Journal of Heat and Mass Transfer, 2017, 115, 886-896.	4.8	43
34	A multi-scale method for rarefied and continuum gas flows based on Fokker-Planck model. AIP Conference Proceedings, 2016, , .	0.4	3
35	Electrowetting Controls the Deposit Patterns of Evaporated Salt Water Nanodroplets. Langmuir, 2016, 32, 1542-1549.	3.5	49
36	Wetting and evaporation of salt-water nanodroplets: A molecular dynamics investigation. Physical Review E, 2015, 92, 052403.	2.1	81

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37	A fast spectral method for the Boltzmann equation for monatomic gas mixtures. Journal of Computational Physics, 2015, 298, 602-621.	3.8	46
38	An accurate treatment of diffuse reflection boundary conditions for a stochastic particle Fokkerâ€“Planck algorithm with large time steps. Physica A: Statistical Mechanics and Its Applications, 2015, 440, 139-146.	2.6	10
39	Two critical issues in Langevin simulation of gas flows. AIP Conference Proceedings, 2014, , .	0.4	2
40	Analysis of transport properties determined by Langevin dynamics using Greenâ€“Kubo formulae. Physica A: Statistical Mechanics and Its Applications, 2014, 411, 104-112.	2.6	19
41	Comparison of Cu thin films deposited on Si substrates with different surfaces and temperatures. Applied Surface Science, 2013, 276, 417-423.	6.1	21
42	Molecular dynamics analysis of lattice site dependent oxygen ion diffusion in YBa2Cu3O7â˜Î´: Exposing the origin of anisotropic oxygen diffusivity. Solid State Ionics, 2013, 232, 123-128.	2.7	6
43	Size Dependent Orientation of Knudsen Force. , 2012, , .		0
44	Molecular dynamics simulation of deposition and growth of Cu thin film on Si substrate. , 2012, , .		1
45	The effect of compressibility on the stability of wall-bounded Kolmogorov flow. Journal of Fluid Mechanics, 2012, 694, 29-49.	3.4	22
46	Growth and properties of Cu thin film deposited on Si(001) substrate: A molecular dynamics simulation study. Applied Surface Science, 2012, 261, 690-696.	6.1	57
47	Multiple temperature model for the information preservation method and its application to nonequilibrium gas flows. Journal of Computational Physics, 2011, 230, 7250-7265.	3.8	20
48	Monte Carlo Simulation of two-dimensional Kolmogorov flow. AIP Conference Proceedings, 2011, , .	0.4	3
49	Negative Knudsen force on heated microbeams. Physical Review E, 2011, 84, 056316.	2.1	27
50	Effects of convection and solid wall on the diffusion in microscale convection flows. Physics of Fluids, 2010, 22, .	4.0	16
51	Monte Carlo simulation of thermal fluctuations below the onset of Rayleigh-BÃ©nard convection. Physical Review E, 2009, 79, 056302.	2.1	15
52	Kinetic study of the Rayleigh-BÃ©nard flows. Science Bulletin, 2009, 54, 364-368.	9.0	9