Moubin Liu

List of Publications by Year
in descending order

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101 papers	6,021 citations	87401 40 h-index	81351 76 g-index
108 all docs	108 docs citations	108 times ranked	3353 citing authors

#	Article	IF	Citations
1	Higherâ€order algorithms for stable solutions of fractional timeâ€dependent nonlinear telegraph equations in space. Numerical Methods for Partial Differential Equations, 2022, 38, 1293-1318.	2.0	1
2	A stable SPH model with large CFL numbers for multi-phase flows with large density ratios. Journal of Computational Physics, 2022, 453, 110944.	1.9	33
3	An immersed boundary-lattice Boltzmann method with hybrid multiple relaxation times for viscoplastic fluid-structure interaction problems. Applied Ocean Research, 2022, 119, 103023.	1.8	5
4	Spatiotemporal distribution and control measure evaluation of droplets and aerosol clouds in dental procedures. Infection Control and Hospital Epidemiology, 2022, , 1-3.	1.0	2
5	Drafting, kissing, and tumbling of a pair of particles settling in non-Newtonian fluids. Physics of Fluids, 2022, 34, .	1.6	6
6	Formation of defects in selective laser melted Inconel 718 and its correlation with mechanical properties through dimensionless numbers. Science China: Physics, Mechanics and Astronomy, 2022, 65, 1.	2.0	3
7	A third-order weighted variational reconstructed discontinuous Galerkin method for solving incompressible flows. Applied Mathematical Modelling, 2021, 91, 1037-1060.	2.2	0
8	Simulating natural convection with high Rayleigh numbers using the Smoothed Particle Hydrodynamics method. International Journal of Heat and Mass Transfer, 2021, 166, 120758.	2.5	10
9	Semi-resolved CFD-DEM modeling of gas-particle two-phase flow in the micro-abrasive air jet machining. Powder Technology, 2021, 381, 585-600.	2.1	19
10	Numerical modeling of the mechanical response of bacterial biofilm to flow by using an SPH poroviscoelastic model. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000214.	0.2	0
11	A High-Order Maximum-Principle-Satisfying Discontinuous Galerkin Method for the Level Set Problem. Journal of Scientific Computing, 2021, 87, 1.	1.1	3
12	Novel operational matrices-based finite difference/spectral algorithm for a class of time-fractional Burger equation in multidimensions. Chaos, Solitons and Fractals, 2021, 144, 110701.	2.5	13
13	Why do anguilliform swimmers perform undulation with wavelengths shorter than their bodylengths?. Physics of Fluids, 2021, 33, .	1.6	30
14	Scaling laws of the lifting height of a conductive particle in a gas insulated switchgear. Journal Physics D: Applied Physics, 2021, 54, 255501.	1.3	1
15	Linearized novel operational matrices-based scheme for classes of nonlinear time-space fractional unsteady problems in 2D. Applied Numerical Mathematics, 2021, 162, 351-373.	1.2	5
16	Coupling edge-based smoothed finite element method with smoothed particle hydrodynamics for fluid structure interaction problems. Ocean Engineering, 2021, 225, 108772.	1.9	39
17	Larger wavelengths suit hydrodynamics of carangiform swimmers. Physical Review Fluids, 2021, 6, .	1.0	16
18	Multi-resolution technique integrated with smoothed particle element method (SPEM) for modeling fluid-structure interaction problems with free surfaces. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	13

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19	A cell-centered indirect Arbitrary-Lagrangian-Eulerian discontinuous Galerkin scheme on moving unstructured triangular meshes with topological adaptability. Journal of Computational Physics, 2021, 438, 110368.	1.9	11
20	Smoothed particle hydrodynamics with adaptive spatial resolution (SPH-ASR) for free surface flows. Journal of Computational Physics, 2021, 443, 110539.	1.9	30
21	On the determination of grid size/smoothing distance in unâˆ'/semi-resolved CFD-DEM simulation of particulate flows. Powder Technology, 2021, 394, 73-82.	2.1	14
22	Fully coupled model for simulating highly nonlinear dynamic behaviors of a bubble near an elastic-plastic thin-walled plate. Physical Review Fluids, 2021, 6, .	1.0	15
23	Modal decompositions of the kinematics of Crevalle jack and the fluidâ€"caudal fin interaction. Bioinspiration and Biomimetics, 2021, 16, 016018.	1.5	7
24	A New Formula for Predicting the Crater Size of a Target Plate Produced by Hypervelocity Impact. International Journal of Computational Methods, 2020, 17, 1844004.	0.8	1
25	Numerical investigation of the solitary wave breaking over a slope by using the finite particle method. Coastal Engineering, 2020, 156, 103617.	1.7	68
26	Sedimentation of general shaped particles using a multigrid fictitious boundary method. Physics of Fluids, 2020, 32, 063301.	1.6	10
27	A four-way coupled CFD-DEM modeling framework for charged particles under electrical field with applications to gas insulated switchgears. Powder Technology, 2020, 373, 433-445.	2.1	15
28	Semi-resolved CFDâ€"DEM for thermal particulate flows with applications to fluidized beds. International Journal of Heat and Mass Transfer, 2020, 159, 120150.	2.5	65
29	A robust scheme based on novelâ€operational matrices for some classes of timeâ€fractional nonlinear problems arising in mechanics and mathematical physics. Numerical Methods for Partial Differential Equations, 2020, 36, 1566-1600.	2.0	22
30	A novel coupling approach of smoothed finite element method with SPH for thermal fluid structure interaction problems. International Journal of Mechanical Sciences, 2020, 174, 105558.	3.6	24
31	Interaction between shock wave and a movable sphere with cavitation effects in shallow water. Physics of Fluids, 2020, 32, .	1.6	21
32	Protective Mechanism of Helmet Under Far-field Shock Wave. International Journal of Impact Engineering, 2020, 143, 103617.	2.4	21
33	Flow transitions and mapping for undulating swimmers. Physical Review Fluids, 2020, 5, .	1.0	36
34	Powder-scale multi-physics modeling of multi-layer multi-track selective laser melting with sharp interface capturing method. Computational Mechanics, 2019, 63, 649-661.	2.2	88
35	Asymptotics of a catenoid liquid bridge between two spherical particles with different radii and contact angles. Physics of Fluids, 2019, 31, .	1.6	8
36	A smoothed particle element method (SPEM) for modeling fluidâ€"structure interaction problems with large fluid deformations. Computer Methods in Applied Mechanics and Engineering, 2019, 356, 261-293.	3.4	53

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37	A kernel gradient-free SPH method with iterative particle shifting technology for modeling low-Reynolds flows around airfoils. Engineering Analysis With Boundary Elements, 2019, 106, 571-587.	2.0	47
38	MHD natural convection and thermal control inside a cavity with obstacles under the radiation effects. Physica A: Statistical Mechanics and Its Applications, 2019, 535, 122443.	1.2	47
39	Smoothed particle hydrodynamics (SPH) for complex fluid flows: Recent developments in methodology and applications. Physics of Fluids, 2019, 31, .	1.6	241
40	A semi-resolved CFDâ€“DEM approach for particulate flows with kernel based approximation and Hilbert curve based searching strategy. Journal of Computational Physics, 2019, 384, 151-169.	1.9	87
41	Predicting the damage on a target plate produced by hypervelocity impact using a decoupled finite particle method. Engineering Analysis With Boundary Elements, 2019, 98, 110-125.	2.0	21
42	A velocity corrected unresolved CFD-DEM coupled method to reproduce wake effects at moderate Reynolds number. Engineering Computations, 2019, 36, 2612-2633.	0.7	8
43	Fully resolved simulations of thermal convective suspensions of elliptic particles using a multigrid fictitious boundary method. International Journal of Heat and Mass Transfer, 2019, 139, 802-821.	2.5	22
44	Dimensionless analysis on selective laser melting to predict porosity and track morphology. Journal of Materials Processing Technology, 2019, 273, 116238.	3.1	36
45	Underwater explosion of slender explosives: Directional effects of shock waves and structure responses. International Journal of Impact Engineering, 2019, 130, 266-280.	2.4	30
46	Coupling finite difference method with finite particle method for modeling viscous incompressible flows. International Journal for Numerical Methods in Fluids, 2019, 90, 564-583.	0.9	20
47	Smoothed particle hydrodynamics (SPH) for modeling fluid-structure interactions. Science China: Physics, Mechanics and Astronomy, 2019, 62, 1.	2.0	137
48	Numerical investigation of composite laminate subjected to combined loadings with blast and fragments. Composite Structures, 2019, 214, 335-347.	3.1	32
49	A finite particle method with particle shifting technique for modeling particulate flows with thermal convection. International Journal of Heat and Mass Transfer, 2019, 128, 1245-1262.	2.5	66
50	Numerical Study on High Velocity Impact Welding Using a Modified SPH Method. International Journal of Computational Methods, 2019, 16, 1846001.	0.8	16
51	Numerical Simulation of Water Entry with Improved SPH Method. International Journal of Computational Methods, 2019, 16, 1846004.	0.8	15
52	A decoupled finite particle method for modeling incompressible flows with free surfaces. Applied Mathematical Modelling, 2018, 60, 606-633.	2.2	87
53	Modelling incompressible flows and fluid-structure interaction problems with smoothed particle hydrodynamics: Briefing on the 2017 SPHERIC Beijing International Workshop. Journal of Hydrodynamics, 2018, 30, 34-37.	1.3	2
54	An improved <scp>SPH</scp> model for multiphase flows with large density ratios. International Journal for Numerical Methods in Fluids, 2018, 86, 167-184.	0.9	14

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55	Dynamics of elliptic particle sedimentation with thermal convection. Physics of Fluids, 2018, 30, .	1.6	40
56	An efficient multi-grid finite element fictitious boundary method for particulate flows with thermal convection. International Journal of Heat and Mass Transfer, 2018, 126, 452-465.	2.5	29
57	Meshfree modeling of a fluidâ€particle twoâ€phase flow with an improved SPH method. International Journal for Numerical Methods in Engineering, 2018, 116, 530-569.	1.5	53
58	A density-adaptive SPH method with kernel gradient correction for modeling explosive welding. Computational Mechanics, 2017, 60, 513-529.	2.2	77
59	Smoothed particle hydrodynamics with kernel gradient correction for modeling high velocity impact in two- and three-dimensional spaces. Engineering Analysis With Boundary Elements, 2017, 83, 141-157.	2.0	52
60	Particle-Based Modeling of Asymmetric Flexible Fibers in Viscous Flows. Communications in Computational Physics, 2017, 22, 1015-1027.	0.7	6
61	An improved KGFâ€SPH with a novel discrete scheme of Laplacian operator for viscous incompressible fluid flows. International Journal for Numerical Methods in Fluids, 2016, 81, 377-396.	0.9	39
62	Bending modes and transition criteria for a flexible fiber in viscous flows. Journal of Hydrodynamics, 2016, 28, 1043-1048.	1.3	9
63	On the modeling of viscous incompressible flows with smoothed particle hydro-dynamics. Journal of Hydrodynamics, 2016, 28, 731-745.	1.3	71
64	Dissipative particle dynamics simulation of flow through periodic arrays of circular micropillar. Applied Mathematics and Mechanics (English Edition), 2016, 37, 1431-1440.	1.9	2
65	Numerical modeling of dam-break flow impacting on flexible structures using an improved SPHâ€“EBG method. Coastal Engineering, 2016, 108, 56-64.	1.7	59
66	Numerical Simulation of Violent Impinging Jet Flows with Improved SPH Method. International Journal of Computational Methods, 2016, 13, 1641001.	0.8	16
67	A kernel gradient free (KGF) SPH method. International Journal for Numerical Methods in Fluids, 2015, 78, 691-707.	0.9	61
68	A comparative study of different baffles on mitigating liquid sloshing in a rectangular tank due to a horizontal excitation. Engineering Computations, 2015, 32, 1172-1190.	0.7	32
69	A 3D Smoothed Particle Hydrodynamics Method with Reactive Flow Model for the Simulation of ANFO. Propellants, Explosives, Pyrotechnics, 2015, 40, 566-575.	1.0	8
70	Mesoscale study of particle sedimentation with inertia effect using dissipative particle dynamics. Microfluidics and Nanofluidics, 2015, 18, 1309-1315.	1.0	10
71	An SPH model for multiphase flows with complex interfaces and large density differences. Journal of Computational Physics, 2015, 283, 169-188.	1.9	154
72	Dissipative Particle Dynamics (DPD): An Overview and Recent Developments. Archives of Computational Methods in Engineering, 2015, 22, 529-556.	6.0	160

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73	Smoothed particle hydrodynamics and element bending group modeling of flexible fibers interacting with viscous fluids. Physical Review E, 2014, 90, 063011.	0.8	28
74	A new kernel function for SPH with applications to free surface flows. Applied Mathematical Modelling, 2014, 38, 3822-3833.	2.2	53
75	Smoothed particle hydrodynamics modeling of viscous liquid drop without tensile instability. Computers and Fluids, 2014, 92, 199-208.	1.3	97
76	An SPH model for free surface flows with moving rigid objects. International Journal for Numerical Methods in Fluids, 2014, 74, 684-697.	0.9	43
77	Numerical modeling of oil spill containment by boom using SPH. Science China: Physics, Mechanics and Astronomy, 2013, 56, 315-321.	2.0	37
78	Smoothed particle hydrodynamics modeling of linear shaped charge with jet formation and penetration effects. Computers and Fluids, 2013, 86, 77-85.	1.3	51
79	Numerical simulation of hydro-elastic problems with smoothed particle hydrodynamics method. Journal of Hydrodynamics, 2013, 25, 673-682.	1.3	38
80	Macrotransport analysis of effective mobility of biomolecules in periodic nano-filter polar arrays. Wuli Xuebao/Acta Physica Sinica, 2013, 62, 218701.	0.2	0
81	NUMERICAL SIMULATION OF BALLAST WATER BY SPH METHOD. International Journal of Computational Methods, 2012, 09, 1240002.	0.8	16
82	On the treatment of solid boundary in smoothed particle hydrodynamics. Science China Technological Sciences, 2012, 55, 244-254.	2.0	114
83	Smoothed Particle Hydrodynamics (SPH): an Overview andÂRecent Developments. Archives of Computational Methods in Engineering, 2010, 17, 25-76.	6.0	1,335
84	Numerical Modeling of Injection Flow of Drug Agents for Controlled Drug Delivery. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 1152-5.	0.5	2
85	Dissipative particle dynamics simulation of multiphase fluid flow in microchannels and microchannel networks. Physics of Fluids, 2007, 19, 033302.	1.6	53
86	Dissipative particle dynamics simulation of pore-scale multiphase fluid flow. Water Resources Research, 2007, 43, .	1.7	44
87	Dissipative particle dynamics simulation of fluid motion through an unsaturated fracture and fracture junction. Journal of Computational Physics, 2007, 222, 110-130.	1.9	53
88	Dissipative particle dynamics with attractive and repulsive particle-particle interactions. Physics of Fluids, 2006, 18, 017101.	1.6	74
89	Adaptive smoothed particle hydrodynamics for high strain hydrodynamics with material strength. Shock Waves, 2006, 15, 21-29.	1.0	67
90	Restoring particle consistency in smoothed particle hydrodynamics. Applied Numerical Mathematics, 2006, 56, 19-36.	1.2	308

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91	Modeling incompressible flows using a finite particle method. Applied Mathematical Modelling, 2005, 29, 1252-1270.	2.2	190
92	Meshfree particle simulation of micro channel flows with surface tension. Computational Mechanics, 2005, 35, 332-341.	2.2	41
93	Modeling of multiphase fluid motion in fracture intersections and fracture networks. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	19
94	Computer simulation of two-phase immiscible fluid motion in unsaturated complex fractures using a volume of fluid method. Water Resources Research, 2005, 41, .	1.7	63
95	Meshfree particle simulation of the detonation process for high explosives in shaped charge unlined cavity configurations. Shock Waves, 2003, 12, 509-520.	1.0	48
96	A one-dimensional meshfree particle formulation for simulating shock waves. Shock Waves, 2003, 13, 201-211.	1.0	45
97	Smoothed particle hydrodynamics for numerical simulation of underwater explosion. Computational Mechanics, 2003, 30, 106-118.	2.2	201
98	Computer simulation of high explosive explosion using smoothed particle hydrodynamics methodology. Computers and Fluids, 2003, 32, 305-322.	1.3	178
99	Constructing smoothing functions in smoothed particle hydrodynamics with applications. Journal of Computational and Applied Mathematics, 2003, 155, 263-284.	1.1	216
100	Computer Simulation of Shaped Charge Detonation Using Meshless Particle Method. International Journal for Blasting and Fragmentation, 2003, 7, 181-202.	0.2	5
101	Investigations into water mitigation using a meshless particle method. Shock Waves, 2002, 12, 181-195.	1.0	88