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List of Publications by Year in descending order

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98
papers

4,570
citations

101543

36
h-index

102487

66
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101
docs citations

101
times ranked

1909
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomistic simulation toward real-scale microprocessor circuits. <i>Chemical Physics Letters</i> , 2022, 791, 139389.	2.6	2
2	Discrete particle methods for engineering simulation: Reproducing mesoscale structures in multiphase systems. , 2022, 1, 69-79.		6
3	Euler-Lagrange simulation of dense gas-solid flow with local grid refinement. <i>Powder Technology</i> , 2022, 399, 117199.	4.2	18
4	Multiscale Modeling of Gas-Solid Surface Interactions Under High-Temperature Gas Effect. <i>Journal of Thermophysics and Heat Transfer</i> , 2022, 36, 951-963.	1.6	3
5	Numerical simulation of commercial MTO fluidized bed reactor with a coarse-grained discrete particle method – EMMS-DPM. <i>Powder Technology</i> , 2022, 406, 117576.	4.2	6
6	Concentration fluctuation caused by reaction-diffusion coupling near catalytic active sites. <i>Chinese Journal of Chemical Engineering</i> , 2022, , .	3.5	0
7	Coupling DPM with DNS for dynamic interphase force evaluation. <i>Chemical Engineering Science</i> , 2021, 231, 116238.	3.8	7
8	Fluid-particle heat transfer in static assemblies: Effect of particle shape. <i>International Journal of Heat and Mass Transfer</i> , 2021, 166, 120730.	4.8	3
9	Dynamic Intermediate Profiles of Zeolite Catalyzed Methanol to Olefins Revealed by Reactive Molecular Dynamics. <i>Energy & Fuels</i> , 2021, 35, 1677-1690.	5.1	7
10	Molecular Dynamics Simulations on the Entrance of Methane and <i>p</i> -Xylene into ZSM-5 Zeolite. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 13358-13367.	3.7	3
11	Nonequilibrium characteristics and spatiotemporal long-range correlations in dense gas-solid suspensions. <i>International Journal of Multiphase Flow</i> , 2021, 142, 103731.	3.4	6
12	Analysis of the energy-minimization multiscale model with multiobjective optimization. <i>Particuology</i> , 2020, 48, 109-115.	3.6	4
13	EMMS-based solid stress model for the multiphase particle-in-cell method. <i>Powder Technology</i> , 2020, 360, 1377-1387.	4.2	18
14	A study on periodic boundary condition in direct numerical simulation for gas-solid flow. <i>Chinese Journal of Chemical Engineering</i> , 2020, 28, 236-241.	3.5	2
15	Modeling the axial hydrodynamics of gas-solid counter-current downers. <i>Particuology</i> , 2020, 50, 135-143.	3.6	7
16	Record Atomistic Simulation of Crystalline Silicon: Bridging Microscale Structures and Macroscale Properties. <i>Journal of Computational Chemistry</i> , 2020, 41, 731-738.	3.3	3
17	Scale and structure dependent drag in gas-solid flows. <i>AIChE Journal</i> , 2020, 66, e16883.	3.6	30
18	Direct numerical simulation of wall-to-liquid heat transfer in turbulent particle-laden channel flow. <i>Chemical Engineering and Processing: Process Intensification</i> , 2020, 157, 108023.	3.6	6

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19	A computational fluid dynamics-discrete element-immersed boundary method for Cartesian grid simulation of heat transfer in compressible gas-solid flow with complex geometries. <i>Physics of Fluids</i> , 2020, 32, .	4.0	32
20	Refining Fuel Composition of RP-3 Chemical Surrogate Models by Reactive Molecular Dynamics and Machine Learning. <i>Energy & Fuels</i> , 2020, 34, 11381-11394.	5.1	12
21	PR-DNS verification of the stability condition in the EMMS model. <i>Chemical Engineering Journal</i> , 2020, 401, 125999.	12.7	7
22	A CFD-DEM-IBM method for Cartesian grid simulation of gas-solid flow in complex geometries. <i>Chemical Engineering Journal</i> , 2020, 389, 124343.	12.7	35
23	Long-time simulation of catalytic MTO reaction in a fluidized bed reactor with a coarse-grained discrete particle method "EMMS-DPM". <i>Chemical Engineering Journal</i> , 2020, 389, 124135.	12.7	42
24	CFD intensification of coal beneficiation process in gas-solid fluidized beds. <i>Chemical Engineering and Processing: Process Intensification</i> , 2020, 148, 107825.	3.6	22
25	Progress in coal chemical technologies of China. <i>Reviews in Chemical Engineering</i> , 2019, 36, 21-66.	4.4	37
26	Concentration fluctuation due to reaction-diffusion coupling near an isolated active site on catalyst surfaces. <i>Chemical Engineering Journal</i> , 2019, 373, 744-754.	12.7	10
27	Three-dimensional CFD simulation of tapered gas-solid risers by coupling the improved EMMS drag. <i>Powder Technology</i> , 2019, 352, 305-313.	4.2	16
28	Virtual process engineering on a three-dimensional circulating fluidized bed with multiscale parallel computation. <i>Journal of Advanced Manufacturing and Processing</i> , 2019, 1, .	2.4	19
29	Mesoscience-based virtual process engineering. <i>Computers and Chemical Engineering</i> , 2019, 126, 68-82.	3.8	23
30	Multiscale structures in particle-fluid systems: Characterization, modeling, and simulation. <i>Chemical Engineering Science</i> , 2019, 198, 198-223.	3.8	85
31	Extremum characteristics of energy consumption in fluidization analyzed by using EMMS. <i>Chemical Engineering Journal</i> , 2018, 342, 386-394.	12.7	8
32	A multilevel-skin neighbor list algorithm for molecular dynamics simulation. <i>Computer Physics Communications</i> , 2018, 222, 59-69.	7.5	0
33	Mesoscience based on the EMMS principle of compromise in competition. <i>Chemical Engineering Journal</i> , 2018, 333, 327-335.	12.7	40
34	Geometrically exact discrete-element-method (DEM) simulation on the flow and mixing of sphero-cylinders in horizontal drums. <i>Powder Technology</i> , 2018, 336, 415-425.	4.2	23
35	A Study of the Soft-Sphere Model in Eulerian-Lagrangian Simulation of Gas-Liquid Flow. <i>International Journal of Chemical Reactor Engineering</i> , 2017, 15, .	1.1	4
36	Discrete simulation of granular and particle-fluid flows: from fundamental study to engineering application. <i>Reviews in Chemical Engineering</i> , 2017, 33, .	4.4	73

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37	Simulation of the effect of coke deposition on the diffusion of methane in zeolite ZSM-5. <i>Chemical Engineering Journal</i> , 2017, 320, 458-467.	12.7	23
38	Assessing the capability of continuum and discrete particle methods to simulate gas-solids flow using DNS predictions as a benchmark. <i>Powder Technology</i> , 2017, 321, 301-309.	4.2	27
39	Simulation Study on the Reaction-Diffusion Coupling in Simple Pore Structures. <i>Langmuir</i> , 2017, 33, 11804-11816.	3.5	8
40	Effect of particle clusters on mass transfer between gas and particles in gas-solid flows. <i>Powder Technology</i> , 2017, 319, 221-227.	4.2	19
41	Meso-scale statistical properties of gas-solid flow—a direct numerical simulation (DNS) study. <i>AIChE Journal</i> , 2017, 63, 3-14.	3.6	52
42	Quantifying cluster dynamics to improve EMMS drag law and radial heterogeneity description in coupling with gas-solid two-fluid method. <i>Chemical Engineering Journal</i> , 2017, 307, 326-338.	12.7	38
43	An approach for drag correction based on the local heterogeneity for gas-solid flows. <i>AIChE Journal</i> , 2017, 63, 1203-1212.	3.6	47
44	Numerical simulation of stirred tanks using a hybrid immersed-boundary method. <i>Chinese Journal of Chemical Engineering</i> , 2016, 24, 1122-1134.	3.5	3
45	Computer virtual experiment on fluidized beds using a coarse-grained discrete particle method—EMMS-DPM. <i>Chemical Engineering Science</i> , 2016, 155, 314-337.	3.8	93
46	Focusing on mesoscales: from the energy-minimization multiscale model to mesoscience. <i>Current Opinion in Chemical Engineering</i> , 2016, 13, 10-23.	7.8	57
47	Hard-sphere/pseudo-particle modelling (HS-PPM) for efficient and scalable molecular simulation of dilute gaseous flow and transport. <i>Molecular Simulation</i> , 2016, 42, 1171-1182.	2.0	11
48	The Sunway TaihuLight supercomputer: system and applications. <i>Science China Information Sciences</i> , 2016, 59, 1.	4.3	340
49	Multiscale Discrete Supercomputing — A Game Changer for Process Simulation?. <i>Chemical Engineering and Technology</i> , 2015, 38, 575-584.	1.5	26
50	Numerical investigation of granular flow similarity in rotating drums. <i>Particuology</i> , 2015, 22, 119-127.	3.6	29
51	Engineering molecular dynamics simulation in chemical engineering. <i>Chemical Engineering Science</i> , 2015, 121, 200-216.	3.8	18
52	Simulation of dynamic fluid-solid interactions with an improved direct-forcing immersed boundary method. <i>Particuology</i> , 2015, 18, 22-34.	3.6	23
53	EMMS-based discrete particle method (EMMS-DPM) for simulation of gas-solid flows. <i>Chemical Engineering Science</i> , 2014, 120, 67-87.	3.8	169
54	Structure-dependent drag in gas-solid flows studied with direct numerical simulation. <i>Chemical Engineering Science</i> , 2014, 116, 9-22.	3.8	61

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55	A two-fluid smoothed particle hydrodynamics (TF-SPH) method for gas–solid fluidization. <i>Chemical Engineering Science</i> , 2013, 99, 89-101.	3.8	24
56	Lattice Boltzmann based discrete simulation for gas–solid fluidization. <i>Chemical Engineering Science</i> , 2013, 101, 228-239.	3.8	44
57	Theoretical analysis on the applicability of traditional SPH method. <i>Science Bulletin</i> , 2013, 58, 2970-2978.	1.7	3
58	SPH simulation of selective withdrawal from microcavity. <i>Microfluidics and Nanofluidics</i> , 2013, 15, 481-490.	2.2	11
59	Petascale molecular dynamics simulation of crystalline silicon on Tianhe-1A. <i>International Journal of High Performance Computing Applications</i> , 2013, 27, 307-317.	3.7	18
60	A NOVEL MODE AND ITS VERIFICATION OF PARALLEL MOLECULAR DYNAMICS SIMULATION WITH THE COUPLING OF GPU AND CPU. <i>International Journal of Modern Physics C</i> , 2012, 23, 1250015.	1.7	5
61	GPU-accelerated molecular dynamics simulation of solid covalent crystals. <i>Molecular Simulation</i> , 2012, 38, 8-15.	2.0	15
62	Large-scale DNS of gas–solid flows on Mole-8.5. <i>Chemical Engineering Science</i> , 2012, 71, 422-430.	3.8	120
63	Efficient parallel implementation of the lattice Boltzmann method on large clusters of graphic processing units. <i>Science Bulletin</i> , 2012, 57, 707-715.	1.7	42
64	Quasi-real-time simulation of rotating drum using discrete element method with parallel GPU computing. <i>Particuology</i> , 2011, 9, 446-450.	3.6	147
65	Validation of EMMS-based drag model using lattice Boltzmann simulations on GPUs. <i>Particuology</i> , 2011, 9, 365-373.	3.6	25
66	Meso-scale oriented simulation towards virtual process engineering (VPE)–The EMMS Paradigm. <i>Chemical Engineering Science</i> , 2011, 66, 4426-4458.	3.8	130
67	Application of the Mole-8.5 supercomputer: Probing the whole influenza virion at the atomic level. <i>Science Bulletin</i> , 2011, 56, 2114-2118.	1.7	9
68	SPH method for two-fluid modeling of particle–fluid fluidization. <i>Chemical Engineering Science</i> , 2011, 66, 1859-1865.	3.8	75
69	Direct numerical simulation of sub-grid structures in gas–solid flow–GPU implementation of macro-scale pseudo-particle modeling. <i>Chemical Engineering Science</i> , 2010, 65, 5356-5365.	3.8	70
70	Statistical properties of pseudo-particle systems. <i>Particuology</i> , 2010, 8, 332-342.	3.6	8
71	Molecular dynamics simulation of macromolecules using graphics processing unit. <i>Molecular Simulation</i> , 2010, 36, 1131-1140.	2.0	16
72	Molecular dynamics simulation of complex multiphase flow on a computer cluster with GPUs. <i>Science in China Series B: Chemistry</i> , 2009, 52, 372-380.	0.8	15

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73	Multi-scale HPC system for multi-scale discrete simulation—Development and application of a supercomputer with 1 Petaflops peak performance in single precision. <i>Particuology</i> , 2009, 7, 332-335.	3.6	54
74	Direct numerical simulation of particle clustering in gas—solid flow with a macro-scale particle method. <i>Chemical Engineering Science</i> , 2009, 64, 43-51.	3.8	31
75	Modeling of Regime Transition in Bubble Columns with Stability Condition. <i>Industrial & Engineering Chemistry Research</i> , 2009, 48, 290-301.	3.7	45
76	Molecular dynamics simulation of a single polymer in hydrophilic nano-slits. <i>Science Bulletin</i> , 2008, 53, 2599-2606.	9.0	2
77	Numerical study on gas—liquid nano-flows with pseudo-particle modeling and soft-particle molecular dynamics simulation. <i>Microfluidics and Nanofluidics</i> , 2008, 5, 639-653.	2.2	9
78	Eulerian simulation of heterogeneous gas—solid flows in CFB risers: EMMS-based sub-grid scale model with a revised cluster description. <i>Chemical Engineering Science</i> , 2008, 63, 1553-1571.	3.8	249
79	A discrete particle model for particle—fluid flow with considerations of sub-grid structures. <i>Chemical Engineering Science</i> , 2007, 62, 2302-2308.	3.8	53
80	Influence of gravity on narrow input forced drainage in 2D liquid foams. <i>Science Bulletin</i> , 2007, 52, 423-427.	1.7	11
81	Pseudo-particle modeling for gas flow in microchannels. <i>Science Bulletin</i> , 2007, 52, 450-455.	1.7	7
82	Analytical multi-scale method for multi-phase complex systems in process engineering—Bridging reductionism and holism. <i>Chemical Engineering Science</i> , 2007, 62, 3346-3377.	3.8	88
83	Explorations on the multi-scale flow structure and stability condition in bubble columns. <i>Chemical Engineering Science</i> , 2007, 62, 6978-6991.	3.8	103
84	High-resolution simulation of gas—solid suspension using macro-scale particle methods. <i>Chemical Engineering Science</i> , 2006, 61, 7096-7106.	3.8	59
85	Simulation of heterogeneous structures and analysis of energy consumption in particle—fluid systems with pseudo-particle modeling. <i>Chemical Engineering Science</i> , 2005, 60, 3091-3099.	3.8	44
86	Parallelizing of macro-scale pseudo-particle modeling for particle-fluid systems. <i>Science in China Series B: Chemistry</i> , 2004, 47, 434-442.	0.8	13
87	Multi-scale methodology for complex systems. <i>Chemical Engineering Science</i> , 2004, 59, 1687-1700.	3.8	159
88	Application of the Discrete Approach to the Simulation of Size Segregation in Granular Chute Flow. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 5521-5528.	3.7	52
89	Simulation of Heterogeneous Structure in a Circulating Fluidized-Bed Riser by Combining the Two-Fluid Model with the EMMS Approach. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 5548-5561.	3.7	228
90	CFD simulation of concurrent-up gas—solid flow in circulating fluidized beds with structure-dependent drag coefficient. <i>Chemical Engineering Journal</i> , 2003, 96, 71-80.	12.7	496

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91	Macro-scale phenomena reproduced in microscopic systemsâ€”pseudo-particle modeling of fluidization. <i>Chemical Engineering Science</i> , 2003, 58, 1565-1585.	3.8	77
92	Choosing structure-dependent drag coefficient in modeling gas-solid two-phase flow. <i>Particuology: Science and Technology of Particles</i> , 2003, 1, 38-41.	0.4	50
93	Pseudo-particle simulation of multi-scale heterogeneity in fluidization. <i>Science Bulletin</i> , 2003, 48, 634-636.	9.0	9
94	General approach for discrete simulation of complex systems. <i>Science Bulletin</i> , 2002, 47, 1172-1175.	1.7	10
95	Physical mapping of fluidization regimesâ€”the EMMS approach. <i>Chemical Engineering Science</i> , 2002, 57, 3993-4004.	3.8	118
96	Macro-scale pseudo-particle modeling for particle-fluid systems. <i>Science Bulletin</i> , 2001, 46, 1503-1507.	1.7	41
97	A simple variational criterion for turbulent flow in pipe. <i>Chemical Engineering Science</i> , 1999, 54, 1151-1154.	3.8	47
98	Dissipative structure in concurrent-up gasâ€”solid flow. <i>Chemical Engineering Science</i> , 1998, 53, 3367-3379.	3.8	69