

Qi Dai

List of Publications by Year in descending order

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120
papers

1,565
citations

361413

20
h-index

414414

32
g-index

122
all docs

122
docs citations

122
times ranked

1025
citing authors

#	ARTICLE	IF	CITATIONS
1	Immersed boundary method for multiphase transport phenomena. <i>Reviews in Chemical Engineering</i> , 2022, 38, 363-405.	4.4	14
2	Mathematical modeling of shear-activated targeted nanoparticle drug delivery for the treatment of aortic diseases. <i>Biomechanics and Modeling in Mechanobiology</i> , 2022, 21, 221-230.	2.8	8
3	Hemodynamic effects of stent-graft introducer sheath during thoracic endovascular aortic repair. <i>Biomechanics and Modeling in Mechanobiology</i> , 2022, 21, 419-431.	2.8	8
4	Large Eddy Simulation of the Layout Effects on Wind Farm Performance Coupling With Wind Turbine Control Strategies. <i>Journal of Energy Resources Technology, Transactions of the ASME</i> , 2022, 144, .	2.3	7
5	Three-Dimensional Computation Fluid Dynamics Simulation of CO Methanation Reactor with Immersed Tubes. <i>Energies</i> , 2022, 15, 321.	3.1	1
6	Numerical Simulation of a 10 kW Gas-Fueled Chemical Looping Combustion Unit. <i>Energies</i> , 2022, 15, 1973.	3.1	2
7	Experimental and Kinetic Studies on Tobacco Pyrolysis under a Wide Range of Heating Rates. <i>ACS Omega</i> , 2022, 7, 1420-1427.	3.5	8
8	Computational Prediction of Thrombosis in Food and Drug Administration's Benchmark Nozzle. <i>Frontiers in Physiology</i> , 2022, 13, 867613.	2.8	4
9	Component quantification of aortic blood flow energy loss using computational fluid-structure interaction hemodynamics. <i>Computer Methods and Programs in Biomedicine</i> , 2022, 221, 106826.	4.7	13
10	Evaluation of the spatiotemporal unsteady characteristics of the tip leakage vortex based on a direct numerical simulation database. <i>Physics of Fluids</i> , 2022, 34, .	4.0	8
11	Direct numerical simulations of turbulent non-premixed flames: Assessment of turbulence within swirling flows. <i>Physics of Fluids</i> , 2021, 33, 015112.	4.0	8
12	2-D and 3-D measurements of flame stretch and turbulence-flame interactions in turbulent premixed flames using DNS. <i>Journal of Fluid Mechanics</i> , 2021, 913, .	3.4	11
13	Predictive models for flame evolution using machine learning: <i>a priori</i> assessment in turbulent flames without and with mean shear. <i>Physics of Fluids</i> , 2021, 33, .	4.0	16
14	Flame edge structures and dynamics in planar turbulent non-premixed inclined slot-jet flames impinging at a wall. <i>Journal of Fluid Mechanics</i> , 2021, 920, .	3.4	6
15	Direct numerical simulation of a supercritical hydrothermal flame in a turbulent jet. <i>Journal of Fluid Mechanics</i> , 2021, 922, .	3.4	4
16	Effects of tip clearance size on vortical structures and turbulence statistics in tip-leakage flows: A direct numerical simulation study. <i>Physics of Fluids</i> , 2021, 33, .	4.0	22
17	A Priori Modeling of NO Formation with Principal Component Analysis and the Convolutional Neural Network in the Context of Large Eddy Simulation. <i>Energy & Fuels</i> , 2021, 35, 20272-20283.	5.1	4
18	Fluctuations of thermodynamic variables in compressible isotropic turbulence laden with inertial particles. <i>Physics of Fluids</i> , 2021, 33, .	4.0	5

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19	An integrated fluid-chemical model toward modeling the thrombus formation in an idealized model of aortic dissection. <i>Computers in Biology and Medicine</i> , 2021, 136, 104709.	7.0	8
20	Effects of heat release on turbulence characteristics in a three-dimensional spatially developing supersonic droplet-laden mixing layer. <i>Fuel</i> , 2021, 301, 121030.	6.4	4
21	Fluid-structure interaction: Insights into biomechanical implications of endograft after thoracic endovascular aortic repair. <i>Computers in Biology and Medicine</i> , 2021, 138, 104882.	7.0	18
22	Effect of wall boundary conditions on the nonlinear response of turbulent premixed flames. <i>AIP Advances</i> , 2021, 11, .	1.3	2
23	3D Unsteady Simulation of a Scale-Up Methanation Reactor with Interconnected Cooling Unit. <i>Energies</i> , 2021, 14, 7095.	3.1	1
24	Three-Dimensional Simulation of the Methanation Process in a Circulating Fluidized-Bed Reactor. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 16417-16429.	3.7	2
25	Biomechanical implications of the fenestration structure after thoracic endovascular aortic repair. <i>Journal of Biomechanics</i> , 2020, 99, 109478.	2.1	20
26	Hemodynamic consequences of TEVAR with in situ double fenestrations of left carotid artery and left subclavian artery. <i>Medical Engineering and Physics</i> , 2020, 76, 32-39.	1.7	11
27	Hybrid Flamelet/Progress Variable Approach for NO Prediction in Pulverized Coal Flames. <i>Energy & Fuels</i> , 2020, 34, 10000-10009.	5.1	0
28	Direct numerical simulation of particle-laden turbulent boundary layers without and with combustion. <i>Physics of Fluids</i> , 2020, 32, 105108.	4.0	12
29	Eulerian-Lagrangian direct numerical simulation of preferential accumulation of inertial particles in a compressible turbulent boundary layer. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	3.4	18
30	Particle-Scale Simulation of Solid Mixing Characteristics of Binary Particles in a Bubbling Fluidized Bed. <i>Energies</i> , 2020, 13, 4442.	3.1	10
31	Numerical Investigation of a Syngas-Fueled Chemical Looping Combustion System. <i>Energy & Fuels</i> , 2020, 34, 12800-12809.	5.1	5
32	A lower-dimensional approximation model of turbulent flame stretch and its related quantities with machine learning approaches. <i>Physics of Fluids</i> , 2020, 32, .	4.0	13
33	Fully resolved simulation of a shockwave interacting with randomly clustered particles via a ghost-cell immersed boundary method. <i>Physics of Fluids</i> , 2020, 32, 066105.	4.0	9
34	Dual-Scale Flamelet/Progress Variable Approach for Prediction of Polycyclic Aromatic Hydrocarbons Formation under the Condition of Coal Combustion. <i>Energy & Fuels</i> , 2020, 34, 10010-10018.	5.1	2
35	Large eddy simulation of turbulent partially premixed flames with inhomogeneous inlets using the dynamic second-order moment closure model. <i>Combustion Theory and Modelling</i> , 2020, 24, 705-724.	1.9	3
36	Molecular Dynamic Study of a Pyrolysis Process of a Coal Particle in Different Environments. <i>Journal of Energy Resources Technology, Transactions of the ASME</i> , 2020, 142, .	2.3	5

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37	Effect of Operating Parameters on Gas-Solid Hydrodynamics and Heat Transfer in a Spouted Bed. <i>Chemical Engineering and Technology</i> , 2019, 42, 2310-2320.	1.5	7
38	Direct numerical simulation of a three-dimensional spatially evolving compressible mixing layer laden with particles. II. Turbulence anisotropy and growth rate. <i>Physics of Fluids</i> , 2019, 31, 083303.	4.0	17
39	Direct numerical simulation of a three-dimensional spatially evolving compressible mixing layer laden with particles. I. Turbulent structures and asymmetric properties. <i>Physics of Fluids</i> , 2019, 31, 083302.	4.0	7
40	Estimating biomass major chemical constituents from ultimate analysis using a random forest model. <i>Bioresource Technology</i> , 2019, 288, 121541.	9.6	49
41	Drag enhancement and turbulence attenuation by small solid particles in an unstably stratified turbulent boundary layer. <i>Physics of Fluids</i> , 2019, 31, 063303.	4.0	16
42	A Primary Computational Fluid Dynamics Study of Pre- and Post-TEVAR With Intentional Left Subclavian Artery Coverage in a Type B Aortic Dissection. <i>Journal of Biomechanical Engineering</i> , 2019, 141, .	1.3	23
43	Investigation of supersonic turbulent flows over a sphere by fully resolved direct numerical simulation. <i>Physics of Fluids</i> , 2019, 31, .	4.0	12
44	Numerical simulation of two-phase non-Newtonian blood flow with fluid-structure interaction in aortic dissection. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2019, 22, 620-630.	1.6	55
45	Effects of in situ fenestration stent-graft of left subclavian artery on the hemodynamics after thoracic endovascular aortic repair. <i>Vascular</i> , 2019, 27, 369-377.	0.9	10
46	Analysis and flamelet modelling for laminar pulverised coal combustion considering the wall effect. <i>Combustion Theory and Modelling</i> , 2019, 23, 353-375.	1.9	3
47	An <i>a priori</i> study of different tabulation methods for turbulent pulverised coal combustion. <i>Combustion Theory and Modelling</i> , 2018, 22, 505-530.	1.9	8
48	Fully resolved simulations of single char particle combustion using a ghost-cell immersed boundary method. <i>AICHE Journal</i> , 2018, 64, 2851-2863.	3.6	19
49	Sheet, ligament and droplet formation in swirling primary atomization. <i>AIP Advances</i> , 2018, 8, .	1.3	21
50	Direct numerical simulation of turbulent flow and heat transfer in a spatially developing turbulent boundary layer laden with particles. <i>Journal of Fluid Mechanics</i> , 2018, 845, 417-461.	3.4	15
51	Direct numerical simulation of particle dispersion in a three-dimensional spatially developing compressible mixing layer. <i>Physics of Fluids</i> , 2018, 30, .	4.0	22
52	Buoyancy effects in an unstably stratified turbulent boundary layer flow. <i>Physics of Fluids</i> , 2017, 29, 015104.	4.0	9
53	Direct numerical simulation of turbulent boundary layer with fully resolved particles at low volume fraction. <i>Physics of Fluids</i> , 2017, 29, 053301.	4.0	15
54	Large eddy simulation of piloted pulverised coal combustion using extended flamelet/progress variable model. <i>Combustion Theory and Modelling</i> , 2017, 21, 925-953.	1.9	44

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55	Transient Growth and Receptivity of Steady Disturbances to Irregular Rough Walls. Journal of Fluids Engineering, Transactions of the ASME, 2017, 139, .	1.5	2
56	Direct numerical simulation of turbulence modulation by particles in compressible isotropic turbulence. Journal of Fluid Mechanics, 2017, 832, 438-482.	3.4	26
57	Evaluation of flamelet/progress variable model for laminar pulverized coal combustion. Physics of Fluids, 2017, 29, .	4.0	45
58	Large-eddy simulation and experimental study on the turbulent wake flow characteristics of a two-bladed wind turbine. Science China Technological Sciences, 2017, 60, 1861-1869.	4.0	8
59	Preferential frequency and size effect of the Brownian force acting on a nanoparticle. Journal of Fluid Mechanics, 2017, 828, 648-660.	3.4	1
60	Numerical analysis on shock-cylinder interaction using immersed boundary method. Science China Technological Sciences, 2017, 60, 1423-1432.	4.0	8
61	Population Balance Equation of Cohesive Particle Flow in a Circulating Fluidized Bed. Chemical Engineering and Technology, 2017, 40, 1544-1551.	1.5	6
62	Numerical Simulation of CO Methanation for the Production of Synthetic Natural Gas in a Fluidized Bed Reactor. Energy & Fuels, 2017, 31, 10267-10273.	5.1	13
63	Extended HPM DEM coupled simulation of drainage of square particles in a 2D hopper flow. AIChE Journal, 2016, 62, 1863-1876.	3.6	7
64	Direct numerical simulation of heat transfer in a spatially developing turbulent boundary layer. Physics of Fluids, 2016, 28, .	4.0	26
65	Modulation of turbulence by dispersed solid particles in a spatially developing flat-plate boundary layer. Journal of Fluid Mechanics, 2016, 802, 359-394.	3.4	39
66	Particle-resolved direct numerical simulation of gas-solid dynamics in experimental fluidized beds. AIChE Journal, 2016, 62, 1917-1932.	3.6	74
67	Direct numerical simulation on supersonic turbulent reacting and non-reacting spray jet in heated coflow. Fuel, 2016, 164, 267-276.	6.4	19
68	CFD simulations of flow and dust dispersion in a realistic urban area. Engineering Applications of Computational Fluid Mechanics, 2016, 10, 228-242.	3.1	11
69	Numerical study of the effects of particles on the near wake around a circular cylinder. International Journal of Computational Fluid Dynamics, 2015, 29, 150-160.	1.2	9
70	An improved moving-least-squares reconstruction for immersed boundary method. International Journal for Numerical Methods in Engineering, 2015, 104, 789-804.	2.8	18
71	CFD-DEM simulation of the spout-annulus interaction in a 3D spouted bed with a conical base. Canadian Journal of Chemical Engineering, 2014, 92, 1130-1138.	1.7	11
72	Direct numerical simulation of confined swirling jets. International Journal of Computational Fluid Dynamics, 2014, 28, 76-88.	1.2	7

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73	LBE simulation of coherent vortex motion and heat transfer in jets of cross flow. International Journal of Computational Fluid Dynamics, 2014, 28, 383-392.	1.2	4
74	Particle-scale investigation of the solid dispersion and residence properties in a 3D spouted fluid bed. AIChE Journal, 2014, 60, 2788-2804.	3.6	65
75	Coupled Computational Fluid Dynamics and Discrete Element Method Study of the Solid Dispersion Behavior in an Internally Circulating Fluidized Bed. Industrial & Engineering Chemistry Research, 2014, 53, 6759-6772.	3.7	8
76	Particle Dispersion and Circulation Patterns in a 3D Spouted Bed with or without Draft Tube. Industrial & Engineering Chemistry Research, 2013, 52, 9620-9631.	3.7	44
77	Three-Dimensional Modeling of Gas-Solid Motion in a Slot-Rectangular Spouted Bed with the Parallel Framework of the Computational Fluid Dynamics-Discrete Element Method Coupling Approach. Industrial & Engineering Chemistry Research, 2013, 52, 13222-13231.	3.7	20
78	DNS analysis of a three-dimensional supersonic turbulent lifted jet flame. Fuel, 2013, 108, 691-698.	6.4	35
79	Computational Fluid Dynamics-Discrete Element Method Investigation of Solid Mixing Characteristics in an Internally Circulating Fluidized Bed. Industrial & Engineering Chemistry Research, 2013, 52, 7556-7568.	3.7	57
80	A Method of Tracing Particles in Irregular Unstructured Grid System. Journal of Computational Multiphase Flows, 2013, 5, 231-237.	0.8	4
81	Correlation analysis on the SGS velocity between phases in an isotropic gas-particle two-phase flow with FDF model. Journal of Thermal Science, 2012, 21, 447-451.	1.9	0
82	Numerical prediction of indoor airborne particle concentration in a test chamber with drift-flux model. Journal of Thermal Science, 2011, 20, 161-166.	1.9	4
83	Direct numerical simulation of a particle-laden low Reynolds number turbulent round jet. International Journal of Multiphase Flow, 2011, 37, 539-554.	3.4	33
84	Numerical study of solid particle erosion on the tubes near the side walls in a duct with flow past an aligned tube bank. AIChE Journal, 2010, 56, 66-78.	3.6	1
85	Direct Numerical Simulation of Subsonic Round Turbulent Jet. Flow, Turbulence and Combustion, 2010, 84, 669-686.	2.6	40
86	Numerical investigation of the effect of sub-grid scale eddies on the dispersed particles by LES/FDF model. Science China Technological Sciences, 2010, 53, 1304-1308.	4.0	6
87	Numerical Simulation of Particle Dispersion in the Wake of a Circular Cylinder. Aerosol Science and Technology, 2009, 43, 174-187.	3.1	24
88	LES/FDF simulation of particle dispersion in a gas-particle two phase plane wake flow. Science in China Series D: Earth Sciences, 2009, 52, 2943-2951.	0.9	7
89	On coherent structures in a three-dimensional transitional plane jet. Science in China Series D: Earth Sciences, 2008, 51, 386-396.	0.9	4
90	Parallel computing strategy for the simulation of particulate flows with immersed boundary method. Science in China Series D: Earth Sciences, 2008, 51, 1169-1176.	0.9	7

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91	Transitional phenomenon of particle dispersion in gas-solid two-phase flows. Science Bulletin, 2007, 52, 408-417.	1.7	6
92	Direct numerical simulation of hydrogen turbulent lifted jet flame in a vitiated coflow. Science Bulletin, 2007, 52, 2147-2156.	1.7	9
93	Three-dimensional reconstruction of the human upper airway from computed tomography images. , 2006, , .		0
94	Multi-objective optimization of the coal combustion performance with artificial neural networks and genetic algorithms. International Journal of Energy Research, 2005, 29, 499-510.	4.5	45
95	The effect of streamwise vortex structures on the particle distribution in the roll-up. Journal of Visualization, 2005, 8, 198-198.	1.8	0
96	Visualization of vortex shedding and particle dispersion in two-phase plate wake. Journal of Visualization, 2005, 8, 3-3.	1.8	3
97	Large eddy simulation of coherent structure of impinging jet. Journal of Thermal Science, 2005, 14, 150-155.	1.9	14
98	Direct numerical simulation of a near-field particle-laden plane turbulent jet. Physical Review E, 2004, 70, 026303.	2.1	31
99	Flow visualization of the turbulent jet by Direct numerical simulation. Journal of Visualization, 2004, 7, 110-110.	1.8	0
100	Coherent structures of the particle-laden turbulent round jet at different reynolds number. Journal of Visualization, 2004, 7, 177-177.	1.8	0
101	DNS of the turbulence modulation by dispersed particles in compressible spatially developing two-phase jets. Progress in Natural Science: Materials International, 2004, 14, 817-821.	4.4	0
102	Direct numerical simulation of a particle-laden weak-shearing plane jet*. Progress in Natural Science: Materials International, 2004, 14, 247-256.	4.4	0
103	Study on fluid flow characteristics in different load cases in tangentially fired furnaces. Chemical Engineering Communications, 2003, 190, 1348-1370.	2.6	0
104	Modulation on coherent vortex structures by dispersed solid particles in a three-dimensional mixing layer. Physical Review E, 2003, 68, 036309.	2.1	21
105	Direct numerical simulation on the particle flow in the wake of circular cylinder*. Progress in Natural Science: Materials International, 2003, 13, 379-384.	4.4	3
106	Direct simulation of particle dispersion in a three-dimensional temporal mixing layer. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2001, 457, 2151-2166.	2.1	19
107	Numerical simulation of swirling gas-solid two phase flow through a pipe expansion. Journal of Thermal Science, 2001, 10, 38-45.	1.9	0
108	An experimental investigation of a new method for protecting bends from erosion in gas-particle flows. Journal of Thermal Science, 2000, 9, 158-162.	1.9	2

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109	PREDICTION OF DENSE TURBULENT PARTICLE LADEN RISER FLOW WITH A EULERIAN AND LAGRANGIAN COMBINED MODEL. Chemical Engineering Communications, 2000, 179, 201-218.	2.6	3
110	On a eulerian and lagrangian combined model in dense particleâ€lâden riser flow. Canadian Journal of Chemical Engineering, 1999, 77, 1113-1120.	1.7	0
111	Modeling of Combustion Process in 600 MW Utility Boiler Using Comprehensive Models and Its Experimental Validation. Energy & Fuels, 1999, 13, 1051-1057.	5.1	21
112	Numerical Simulation and Experimental Study of Two-Phase Flow in a Vertical Pipe. Aerosol Science and Technology, 1997, 27, 281-292.	3.1	10
113	PARTICLE CONCENTRATION AND SIZE MEASUREMENTS IN TWO-PHASE TURBULENT COAXIAL JETS. Chemical Engineering Communications, 1997, 156, 115-129.	2.6	6
114	Laser Diffraction Method Measurements of Particle-Gas Dispersion Effects in a Coaxial Jet. Aerosol Science and Technology, 1997, 26, 447-458.	3.1	3
115	NUMERICAL SIMULATION OF THE EFFECT OF VELOCITY RATIO ON THE FLOW CHARACTERISTICS IN A COAXIAL JET. Chemical Engineering Communications, 1996, 147, 85-98.	2.6	1
116	PREDICTION OF A GAS-PARTICLE TURBULENT JET WITH THE FLUCTUATION-SPECTRUM-RANDOM-TRAJECTORY MODEL. Chemical Engineering Communications, 1995, 135, 101-112.	2.6	0
117	NUMERICAL PREDICTION OF A RECTANGULAR TURBULENT JET IN A CROSS FLOW. Chemical Engineering Communications, 1992, 117, 293-306.	2.6	0
118	NUMERICAL CALCULATIONS OF TUBE BUNDLES EROSION BY TURBULENT PARTICLE-LADEN GAS FLOWS. Chemical Engineering Communications, 1991, 104, 209-225.	2.6	4
119	NUMERICAL PREDICTION OF TUBE ROW EROSION BY COAL ASH IMPACTION. Chemical Engineering Communications, 1990, 95, 75-88.	2.6	10
120	NUMERICAL MODELING AND EXPERIMENTAL STUDY OF PARTICLE-LADEN COAXIAL JETS. Chemical Engineering Communications, 1989, 86, 55-71.	2.6	5