

Shuyu Sun

List of Publications by Year in descending order

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363
papers

6,599
citations

76326

40
h-index

138484

58
g-index

372
all docs

372
docs citations

372
times ranked

3243
citing authors

#	ARTICLE	IF	CITATIONS
1	Compatible algorithms for coupled flow and transport. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004, 193, 2565-2580.	6.6	245
2	Symmetric and Nonsymmetric Discontinuous Galerkin Methods for Reactive Transport in Porous Media. <i>SIAM Journal on Numerical Analysis</i> , 2005, 43, 195-219.	2.3	139
3	Discontinuous Galerkin methods for coupled flow and reactive transport problems. <i>Applied Numerical Mathematics</i> , 2005, 52, 273-298.	2.1	113
4	Coupled Generalized Nonlinear Stokes Flow with Flow through a Porous Medium. <i>SIAM Journal on Numerical Analysis</i> , 2009, 47, 929-952.	2.3	111
5	Thermodynamically consistent modelling of two-phase flows with moving contact line and soluble surfactants. <i>Journal of Fluid Mechanics</i> , 2019, 879, 327-359.	3.4	108
6	A deterministic model of growth factor-induced angiogenesis. <i>Bulletin of Mathematical Biology</i> , 2005, 67, 313-337.	1.9	100
7	Adsorption of carbon dioxide, methane, and their mixture by montmorillonite in the presence of water. <i>Microporous and Mesoporous Materials</i> , 2016, 225, 331-341.	4.4	100
8	A Locally Conservative Finite Element Method Based on Piecewise Constant Enrichment of the Continuous Galerkin Method. <i>SIAM Journal of Scientific Computing</i> , 2009, 31, 2528-2548.	2.8	92
9	Compositional modeling of three-phase flow with gravity using higher-order finite element methods. <i>Water Resources Research</i> , 2011, 47, .	4.2	83
10	Efficient energy-stable schemes for the hydrodynamics coupled phase-field model. <i>Applied Mathematical Modelling</i> , 2019, 70, 82-108.	4.2	83
11	Molecular Dynamics Simulations of Carbon Dioxide, Methane, and Their Mixture in Montmorillonite Clay Hydrates. <i>Journal of Physical Chemistry C</i> , 2016, 120, 12517-12529.	3.1	82
12	A phase-field moving contact line model with soluble surfactants. <i>Journal of Computational Physics</i> , 2020, 405, 109170.	3.8	74
13	A self-adaptive deep learning algorithm for accelerating multi-component flash calculation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 369, 113207.	6.6	73
14	Two-Phase Fluid Simulation Using a Diffuse Interface Model with Peng–Robinson Equation of State. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, B708-B728.	2.8	69
15	A coupled Lattice Boltzmann approach to simulate gas flow and transport in shale reservoirs with dynamic sorption. <i>Fuel</i> , 2019, 246, 196-203.	6.4	65
16	Molecular Dynamics Simulation Study of Carbon Dioxide, Methane, and Their Mixture in the Presence of Brine. <i>Journal of Physical Chemistry B</i> , 2017, 121, 9688-9698.	2.6	60
17	A finite element method for the numerical solution of the coupled Cahn–Hilliard and Navier–Stokes system for moving contact line problems. <i>Journal of Computational Physics</i> , 2012, 231, 8083-8099.	3.8	59
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19	Linearly Decoupled Energy-Stable Numerical Methods for Multicomponent Two-Phase Compressible Flow. <i>SIAM Journal on Numerical Analysis</i> , 2018, 56, 3219-3248.	2.3	56
20	Advances in Gaussian random field generation: a review. <i>Computational Geosciences</i> , 2019, 23, 1011-1047.	2.4	55
21	FRACTAL ANALYSIS OF FRACTURE INCREASING SPONTANEOUS IMBIBITION IN POROUS MEDIA WITH GAS-SATURATED. <i>International Journal of Modern Physics C</i> , 2013, 24, 1350056.	1.7	53
22	Parallel simulation of wormhole propagation with the Darcy-Brinkman-Forchheimer framework. <i>Computers and Geotechnics</i> , 2015, 69, 564-577.	4.7	53
23	MHD Mixed Convective Boundary Layer Flow of a Nanofluid through a Porous Medium due to an Exponentially Stretching Sheet. <i>Mathematical Problems in Engineering</i> , 2012, 2012, 1-21.	1.1	52
24	A numerical method for a model of two-phase flow in a coupled free flow and porous media system. <i>Journal of Computational Physics</i> , 2014, 268, 1-16.	3.8	52
25	Anisotropic and dynamic mesh adaptation for discontinuous Galerkin methods applied to reactive transport. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 3382-3405.	6.6	51
26	Molecular Simulation Study of Montmorillonite in Contact with Water. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 1396-1403.	3.7	51
27	A new treatment of capillarity to improve the stability of IMPES two-phase flow formulation. <i>Computers and Fluids</i> , 2010, 39, 1923-1931.	2.5	50
28	Numerical and dimensional analysis of nanoparticles transport with two-phase flow in porous media. <i>Journal of Petroleum Science and Engineering</i> , 2015, 128, 53-64.	4.2	50
29	Projections of velocity data for the compatibility with transport. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 653-673.	6.6	49
30	Numerical simulation of a buried hot crude oil pipeline under normal operation. <i>Applied Thermal Engineering</i> , 2010, 30, 2670-2679.	6.0	49
31	Analysis of a turbulent buoyant confined jet modeled using realizable $k-\epsilon$ model. <i>Heat and Mass Transfer</i> , 2010, 46, 943-960.	2.1	47
32	A Comprehensive Experimental Study on Mechanical Behavior, Microstructure and Transport Properties of 3D-printed Rock Analogs. <i>Rock Mechanics and Rock Engineering</i> , 2020, 53, 5745-5765.	5.4	47
33	Coupling Discontinuous Galerkin and Mixed Finite Element Discretizations using Mortar Finite Elements. <i>SIAM Journal on Numerical Analysis</i> , 2008, 46, 949-979.	2.3	45
34	Thermodynamically consistent modeling and simulation of multi-component two-phase flow with partial miscibility. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 331, 623-649.	6.6	44
35	Accelerating flash calculations in unconventional reservoirs considering capillary pressure using an optimized deep learning algorithm. <i>Journal of Petroleum Science and Engineering</i> , 2020, 195, 107886.	4.2	44
36	Active-Set Reduced-Space Methods with Nonlinear Elimination for Two-Phase Flow Problems in Porous Media. <i>SIAM Journal of Scientific Computing</i> , 2016, 38, B593-B618.	2.8	43

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37	Molecular Simulation Study of Montmorillonite in Contact with Variably Wet Supercritical Carbon Dioxide. <i>Journal of Physical Chemistry C</i> , 2017, 121, 6199-6208.	3.1	43
38	Flow behaviors of shale oil in kerogen slit by molecular dynamics simulation. <i>Chemical Engineering Journal</i> , 2022, 434, 134682.	12.7	43
39	Coupling nonlinear Stokes and Darcy flow using mortar finite elements. <i>Applied Numerical Mathematics</i> , 2011, 61, 1198-1222.	2.1	42
40	Decoupled, energy stable schemes for a phase-field surfactant model. <i>Computer Physics Communications</i> , 2018, 233, 67-77.	7.5	42
41	Accelerating flash calculation through deep learning methods. <i>Journal of Computational Physics</i> , 2019, 394, 153-165.	3.8	42
42	Flow Mechanism and Simulation Approaches for Shale Gas Reservoirs: A Review. <i>Transport in Porous Media</i> , 2019, 126, 655-681.	2.6	41
43	A stable algorithm for calculating phase equilibria with capillarity at specified moles, volume and temperature using a dynamic model. <i>Fluid Phase Equilibria</i> , 2018, 456, 7-24.	2.5	40
44	Adsorption and Diffusion of Methane and Carbon Dioxide in Amorphous Regions of Cross-Linked Polyethylene: A Molecular Simulation Study. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 8426-8436.	3.7	40
45	Adsorption and Diffusion of Carbon Dioxide, Methane, and Their Mixture in Carbon Nanotubes in the Presence of Water. <i>Journal of Physical Chemistry C</i> , 2020, 124, 16478-16487.	3.1	40
46	A Combined Mixed Finite Element and Discontinuous Galerkin Method for Miscible Displacement Problem in Porous Media. , 2002, , 323-351.		40
47	Preparation of Highly Porous Polymer Membranes with Hierarchical Porous Structures via Spinodal Decomposition of Mixed Solvents with UCST Phase Behavior. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 44041-44049.	8.0	38
48	Superconvergence of mixed finite element approximations to 3-D Maxwell's equations in metamaterials. <i>Journal of Computational Physics</i> , 2011, 230, 8275-8289.	3.8	37
49	Numerical investigation of nanoparticles transport in anisotropic porous media. <i>Journal of Contaminant Hydrology</i> , 2015, 181, 114-130.	3.3	37
50	Layer Charge Effects on Adsorption and Diffusion of Water and Ions in Interlayers and on External Surfaces of Montmorillonite. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2635-2645.	2.7	37
51	A Componentwise Convex Splitting Scheme for Diffuse Interface Models with Van der Waals and Peng-Robinson Equations of State. <i>SIAM Journal of Scientific Computing</i> , 2017, 39, B1-B28.	2.8	36
52	Nonlinearly preconditioned semismooth Newton methods for variational inequality solution of two-phase flow in porous media. <i>Journal of Computational Physics</i> , 2017, 332, 1-20.	3.8	36
53	Modeling and analysis of the acidizing process in carbonate rocks using a two-phase thermal-hydrologic-chemical coupled model. <i>Chemical Engineering Science</i> , 2019, 207, 215-234.	3.8	36
54	Study on the multiphase heat and mass transfer mechanism in the dissociation of methane hydrate in reconstructed real-shape porous sediments. <i>Energy</i> , 2022, 254, 124421.	8.8	36

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55	Numerical simulation of a buried hot crude oil pipeline during shutdown. <i>Petroleum Science</i> , 2010, 7, 73-82.	4.9	35
56	Competitive adsorption phenomenon in shale gas displacement processes. <i>RSC Advances</i> , 2019, 9, 25326-25335.	3.6	35
57	Review on space energy. <i>Applied Energy</i> , 2021, 292, 116896.	10.1	35
58	An Iterative Implicit Scheme for Nanoparticles Transport with Two-Phase Flow in Porous Media. <i>Procedia Computer Science</i> , 2016, 80, 1344-1353.	2.0	34
59	A Novel Energy Factorization Approach for the Diffuse-Interface Model with Peng–Robinson Equation of State. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, B30-B56.	2.8	34
60	A finite volume method for cylindrical heat conduction problems based on local analytical solution. <i>International Journal of Heat and Mass Transfer</i> , 2012, 55, 5570-5582.	4.8	33
61	The Superconvergence Phenomenon and Proof of the MAC Scheme for the Stokes Equations on Non-uniform Rectangular Meshes. <i>Journal of Scientific Computing</i> , 2015, 65, 341-362.	2.3	33
62	Efficient numerical methods for simulating surface tension of multi-component mixtures with the gradient theory of fluid interfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 292, 92-106.	6.6	33
63	Mixed finite element-based fully conservative methods for simulating wormhole propagation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 298, 279-302.	6.6	33
64	Fully mass-conservative IMPES schemes for incompressible two-phase flow in porous media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 350, 641-663.	6.6	33
65	Characterization and microfabrication of natural porous rocks: From micro-CT imaging and digital rock modelling to micro-3D-printed rock analogs. <i>Journal of Petroleum Science and Engineering</i> , 2021, 205, 108827.	4.2	33
66	A posteriori error estimation and dynamic adaptivity for symmetric discontinuous Galerkin approximations of reactive transport problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 632-652.	6.6	32
67	Bulk and interfacial properties of decane in the presence of carbon dioxide, methane, and their mixture. <i>Scientific Reports</i> , 2019, 9, 19784.	3.3	31
68	Numerical and dimensional investigation of two-phase countercurrent imbibition in porous media. <i>Journal of Computational and Applied Mathematics</i> , 2013, 242, 285-296.	2.0	30
69	Acceleration of the <i>NVT</i> Flash Calculation for Multicomponent Mixtures Using Deep Neural Network Models. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 12312-12322.	3.7	30
70	Bulk and Interfacial Properties of the Decane + Water System in the Presence of Methane, Carbon Dioxide, and Their Mixture. <i>Journal of Physical Chemistry B</i> , 2020, 124, 9556-9569.	2.6	30
71	Analytical solution for fractional derivative gas-flow equation in porous media. <i>Results in Physics</i> , 2017, 7, 2432-2438.	4.1	29
72	Numerical Approximation of a Phase-Field Surfactant Model with Fluid Flow. <i>Journal of Scientific Computing</i> , 2019, 80, 223-247.	2.3	29

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73	Sorption and Diffusion of Methane and Carbon Dioxide in Amorphous Poly(alkyl acrylates): A Molecular Simulation Study. <i>Journal of Physical Chemistry B</i> , 2020, 124, 1301-1310.	2.6	29
74	Multiscale Angiogenesis Modeling Using Mixed Finite Element Methods. <i>Multiscale Modeling and Simulation</i> , 2005, 4, 1137-1167.	1.6	28
75	Discontinuous Galerkin methods for simulating bioreactive transport of viruses in porous media. <i>Advances in Water Resources</i> , 2007, 30, 1696-1710.	3.8	28
76	Flow and Transport in Tight and Shale Formations: A Review. <i>Geofluids</i> , 2017, 2017, 1-21.	0.7	28
77	Complexation Behavior of Polyelectrolytes and Polyampholytes. <i>Journal of Physical Chemistry B</i> , 2017, 121, 7987-7998.	2.6	27
78	A fully implicit constraint-preserving simulator for the black oil model of petroleum reservoirs. <i>Journal of Computational Physics</i> , 2019, 396, 347-363.	3.8	27
79	Thermodynamics-Informed Neural Network (TINN) for Phase Equilibrium Calculations Considering Capillary Pressure. <i>Energies</i> , 2021, 14, 7724.	3.1	27
80	A Multipoint Flux Approximation of the Steady-State Heat Conduction Equation in Anisotropic Media. <i>Journal of Heat Transfer</i> , 2013, 135, .	2.1	26
81	Solving global problem by considering multitude of local problems: Application to fluid flow in anisotropic porous media using the multipoint flux approximation. <i>Journal of Computational and Applied Mathematics</i> , 2014, 267, 117-130.	2.0	26
82	Two-dimensional gyrotactic microorganisms flow of hydromagnetic power law nanofluid past an elongated sheet. <i>Advances in Mechanical Engineering</i> , 2019, 11, 168781401988125.	1.6	26
83	Effect of Ion Valency on the Properties of the Carbon Dioxide-Methane-Brine System. <i>Journal of Physical Chemistry B</i> , 2019, 123, 2719-2727.	2.6	26
84	Low salinity effect on the recovery of oil trapped by nanopores: A molecular dynamics study. <i>Fuel</i> , 2020, 261, 116443.	6.4	26
85	Numerical investigation of carbonate acidizing with gelled acid using a coupled thermal-hydrologic-chemical model. <i>International Journal of Thermal Sciences</i> , 2021, 160, 106700.	4.9	26
86	A self-adaptive deep learning algorithm for intelligent natural gas pipeline control. <i>Energy Reports</i> , 2021, 7, 3488-3496.	5.1	26
87	Fully discrete energy stable scheme for a phase-field moving contact line model with variable densities and viscosities. <i>Applied Mathematical Modelling</i> , 2020, 83, 614-639.	4.2	26
88	Analysis of Discontinuous Galerkin Methods for Multicomponent Reactive Transport Problems. <i>Computers and Mathematics With Applications</i> , 2006, 52, 637-650.	2.7	25
89	Matrix-oriented implementation for the numerical solution of the partial differential equations governing flows and transport in porous media. <i>Computers and Fluids</i> , 2012, 68, 38-46.	2.5	25
90	History Matching of Electromagnetically Heated Reservoirs Incorporating Full-Wavefield Seismic and Electromagnetic Imaging. <i>SPE Journal</i> , 2015, 20, 923-941.	3.1	25

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91	Constraining a compositional flow model with flow-chemical data using an ensemble-based Kalman filter. <i>Water Resources Research</i> , 2014, 50, 2444-2467.	4.2	24
92	Multi-data reservoir history matching for enhanced reservoir forecasting and uncertainty quantification. <i>Journal of Petroleum Science and Engineering</i> , 2015, 128, 160-176.	4.2	24
93	Unconditionally stable methods for simulating multi-component two-phase interface models with Peng-Robinson equation of state and various boundary conditions. <i>Journal of Computational and Applied Mathematics</i> , 2016, 291, 158-182.	2.0	24
94	A scalable fully implicit framework for reservoir simulation on parallel computers. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 330, 334-350.	6.6	24
95	Numerical Methods for a Multicomponent Two-Phase Interface Model with Geometric Mean Influence Parameters. <i>SIAM Journal of Scientific Computing</i> , 2015, 37, B543-B569.	2.8	23
96	Structure, Thermodynamics, and Dynamics of Thin Brine Films in Oil-Brine-Rock Systems. <i>Langmuir</i> , 2019, 35, 10341-10353.	3.5	23
97	Darcy-scale phase equilibrium modeling with gravity and capillarity. <i>Journal of Computational Physics</i> , 2019, 399, 108908.	3.8	23
98	A tutorial review of reactive transport modeling and risk assessment for geologic CO ₂ sequestration. <i>Computers and Geosciences</i> , 2019, 127, 1-11.	4.2	23
99	Overview of the Adsorption and Transport Properties of Water, Ions, Carbon Dioxide, and Methane in Swelling Clays. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 2599-2611.	2.7	23
100	Pore scale modeling on dissociation and transportation of methane hydrate in porous sediments. <i>Energy</i> , 2021, 237, 121630.	8.8	23
101	Convergence of Discontinuous Galerkin Methods for Incompressible Two-Phase Flow in Heterogeneous Media. <i>SIAM Journal on Numerical Analysis</i> , 2013, 51, 3280-3306.	2.3	22
102	Multi-scale diffuse interface modeling of multi-component two-phase flow with partial miscibility. <i>Journal of Computational Physics</i> , 2016, 318, 349-372.	3.8	22
103	A globally mass-conservative method for dual-continuum gas reservoir simulation. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 53, 301-316.	4.4	22
104	A fully mass-conservative iterative IMPEC method for multicomponent compressible flow in porous media. <i>Journal of Computational and Applied Mathematics</i> , 2019, 362, 1-21.	2.0	22
105	Effect of salinity on oil production: review on low salinity waterflooding mechanisms and exploratory study on pipeline scaling. <i>Oil and Gas Science and Technology</i> , 2020, 75, 50.	1.4	22
106	Interfacial properties of the alkane+water system in the presence of carbon dioxide and hydrophobic silica. <i>Fuel</i> , 2022, 310, 122332.	6.4	22
107	An energy stable evolution method for simulating two-phase equilibria of multi-component fluids at constant moles, volume and temperature. <i>Computational Geosciences</i> , 2016, 20, 283-295.	2.4	21
108	Swelling pressure of montmorillonite with multiple water layers at elevated temperatures and water pressures: A molecular dynamics study. <i>Applied Clay Science</i> , 2021, 201, 105924.	5.2	21

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109	Modeling and Simulation of Nanoparticles Transport in a Two-Phase Flow in Porous Media. , 2012, , .		20
110	Conformational transitions of a weak polyampholyte. Journal of Chemical Physics, 2014, 141, 134905.	3.0	20
111	Dissociation and transport modeling of methane hydrate in core-scale sandy sediments: A comparative study. Energy, 2021, 221, 119890.	8.8	20
112	Sorption and Diffusion of Methane, Carbon Dioxide, and Their Mixture in Amorphous Polyethylene at High Pressures and Temperatures. Industrial & Engineering Chemistry Research, 2021, 60, 7729-7738.	3.7	20
113	An Equation-Type Approach for the Numerical Solution of the Partial Differential Equations Governing Transport Phenomena in Porous Media. Procedia Computer Science, 2012, 9, 661-669.	2.0	19
114	EMSE: Synergizing EM and seismic data attributes for enhanced forecasts of reservoirs. Journal of Petroleum Science and Engineering, 2014, 122, 396-410.	4.2	19
115	Upwind discontinuous Galerkin methods with mass conservation of both phases for incompressible two-phase flow in porous media. Numerical Methods for Partial Differential Equations, 2014, 30, 1674-1699.	3.6	19
116	Numerical investigation of high level nuclear waste disposal in deep anisotropic geologic repositories. Progress in Nuclear Energy, 2015, 85, 747-755.	2.9	19
117	Visualized Experiments on Residual Oil Classification and Its Influencing Factors in Waterflooding Using Micro-Computed Tomography. Journal of Energy Resources Technology, Transactions of the ASME, 2020, 142, .	2.3	19
118	Phase equilibrium calculations in shale gas reservoirs. Capillarity, 2019, 2, 8-16.	2.2	19
119	A DYNAMIC, ADAPTIVE, LOCALLY CONSERVATIVE, AND NONCONFORMING SOLUTION STRATEGY FOR TRANSPORT PHENOMENA IN CHEMICAL ENGINEERING. Chemical Engineering Communications, 2006, 193, 1527-1545.	2.6	18
120	Inoperability input-output modeling (IIM) of disruptions to supply chain networks. Systems Engineering, 2010, 13, 324-339.	2.7	18
121	Speeding up the flash calculations in two-phase compositional flow simulations – The application of sparse grids. Journal of Computational Physics, 2015, 285, 88-99.	3.8	18
122	Three-Dimensional, Numerical Investigation of Flow and Heat Transfer in Rectangular Channels Subject to Partial Blockage. Heat Transfer Engineering, 2015, 36, 152-165.	1.9	18
123	Numerical Investigation on the Effects of a Precursor Wetting Film on the Displacement of Two Immiscible Phases Along a Channel. Flow, Turbulence and Combustion, 2016, 96, 757-771.	2.6	18
124	Numerical modeling on hydrate formation and evaluating the influencing factors of its heterogeneity in core-scale sandy sediment. Journal of Natural Gas Science and Engineering, 2021, 90, 103945.	4.4	18
125	Enhanced Oil Recovery by Nanoparticles Injection: Modeling and Simulation. , 2013, , .		17
126	Adaptive mixed finite element methods for Darcy flow in fractured porous media. Water Resources Research, 2016, 52, 7851-7868.	4.2	17

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127	Flow split characterization of two immiscible phases with different wettability scenarios: A numerical investigation using a coupled Cahn–Hilliard and Navier–Stokes system. <i>International Journal of Multiphase Flow</i> , 2018, 100, 172-185.	3.4	17
128	Entropy stable modeling of non-isothermal multi-component diffuse-interface two-phase flows with realistic equations of state. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 341, 221-248.	6.6	17
129	Thermodynamically consistent simulation of nonisothermal diffuse-interface two-phase flow with Peng–Robinson equation of state. <i>Journal of Computational Physics</i> , 2018, 371, 581-605.	3.8	17
130	A semi-analytic porosity evolution scheme for simulating wormhole propagation with the Darcy–Brinkman–Forchheimer model. <i>Journal of Computational and Applied Mathematics</i> , 2019, 348, 401-420.	2.0	17
131	Influence of fractal surface roughness on multiphase flow behavior: Lattice Boltzmann simulation. <i>International Journal of Multiphase Flow</i> , 2021, 134, 103497.	3.4	17
132	Bulk and Interfacial Properties of Alkanes in the Presence of Carbon Dioxide, Methane, and Their Mixture. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 729-738.	3.7	17
133	Nonlinear behaviors of capillary formation in a deterministic angiogenesis model. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2005, 63, e2237-e2246.	1.1	16
134	Local problem-based a posteriori error estimators for discontinuous Galerkin approximations of reactive transport. <i>Computational Geosciences</i> , 2007, 11, 87-101.	2.4	16
135	Direct Calculation of Permeability by High-Accurate Finite Difference and Numerical Integration Methods. <i>Communications in Computational Physics</i> , 2016, 20, 405-440.	1.7	16
136	Generalized multiscale approximation of mixed finite elements with velocity elimination for subsurface flow. <i>Journal of Computational Physics</i> , 2020, 404, 109133.	3.8	16
137	Thermodynamic modeling of CO_2 solubility in saline water using NVT flash with the cubic-Plus-association equation of state. <i>Fluid Phase Equilibria</i> , 2020, 520, 112657.	2.5	16
138	Multiscale Discontinuous Galerkin and Operator-Splitting Methods for Modeling Subsurface Flow and Transport. <i>International Journal for Multiscale Computational Engineering</i> , 2008, 6, 87-101.	1.2	16
139	An adaptive finite element method for simulating surface tension with the gradient theory of fluid interfaces. <i>Journal of Computational and Applied Mathematics</i> , 2014, 255, 593-604.	2.0	15
140	Adaptive mixed-hybrid and penalty discontinuous Galerkin method for two-phase flow in heterogeneous media. <i>Journal of Computational and Applied Mathematics</i> , 2016, 307, 262-283.	2.0	15
141	Comparison of multi-field coupling numerical simulation in hot dry rock thermal exploitation of enhanced geothermal systems. <i>Advances in Geo-Energy Research</i> , 2019, 3, 396-409.	6.0	15
142	A 6M digital twin for modeling and simulation in subsurface reservoirs. <i>Advances in Geo-Energy Research</i> , 2020, 4, 349-351.	6.0	15
143	Interfacial properties of the aromatic hydrocarbon–water system in the presence of hydrophilic silica. <i>Journal of Molecular Liquids</i> , 2022, 346, 118272.	4.9	15
144	Fast Prediction Method for Steady-State Heat Convection. <i>Chemical Engineering and Technology</i> , 2012, 35, 668-678.	1.5	14

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145	Comparison study between the effects of different terms contributing to viscous dissipation in saturated porous media. <i>International Journal of Thermal Sciences</i> , 2013, 64, 195-203.	4.9	14
146	Adaptive moving grid methods for two-phase flow in porous media. <i>Journal of Computational and Applied Mathematics</i> , 2014, 265, 139-150.	2.0	14
147	An efficient two-scale hybrid embedded fracture model for shale gas simulation. <i>Journal of Petroleum Science and Engineering</i> , 2017, 152, 683-714.	4.2	14
148	Computing and Comparing Effective Properties for Flow and Transport in Computer-Generated Porous Media. <i>Geofluids</i> , 2017, 2017, 1-24.	0.7	14
149	Discrete-fracture-model of multi-scale time-splitting two-phase flow including nanoparticles transport in fractured porous media. <i>Journal of Computational and Applied Mathematics</i> , 2018, 333, 327-349.	2.0	14
150	Thermodynamically-consistent flash calculation in energy industry: From iterative schemes to a unified thermodynamics-informed neural network. <i>International Journal of Energy Research</i> , 2022, 46, 15332-15346.	4.5	14
151	Continuum modeling of supply chain networks using discontinuous Galerkin methods. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 1204-1218.	6.6	13
152	Convergence analysis of the nonlinear iterative method for two-phase flow in porous media associated with nanoparticle injection. <i>International Journal of Numerical Methods for Heat and Fluid Flow</i> , 2017, 27, 2289-2317.	2.8	13
153	Thermodynamically Stable Two-Phase Equilibrium Calculation of Hydrocarbon Mixtures with Capillary Pressure. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 17276-17288.	3.7	13
154	Heat and Mass Transfer in a Viscous Nanofluid Containing a Gyrotactic Micro-Organism Over a Stretching Cylinder. <i>Symmetry</i> , 2019, 11, 1131.	2.2	13
155	Homogenization of two-phase fluid flow in porous media via volume averaging. <i>Journal of Computational and Applied Mathematics</i> , 2019, 353, 265-282.	2.0	13
156	Multiscale pore structure characterization based on SEM images. <i>Fuel</i> , 2021, 289, 119915.	6.4	13
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