

Muhammad Sahimi

List of Publications by Year in descending order

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292
papers

13,928
citations

18482

62
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33894

99
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316
all docs

316
docs citations

316
times ranked

8519
citing authors

#	ARTICLE	IF	CITATIONS
1	Flow phenomena in rocks: from continuum models to fractals, percolation, cellular automata, and simulated annealing. Reviews of Modern Physics, 1993, 65, 1393-1534.	45.6	977
2	Tortuosity in Porous Media: A Critical Review. Soil Science Society of America Journal, 2013, 77, 1461-1477.	2.2	569
3	Statistical and continuum models of fluid-solid reactions in porous media. Chemical Engineering Science, 1990, 45, 1443-1502.	3.8	382
4	A study by in situ techniques of the thermal evolution of the structure of a Mg-Al-CO ₃ layered double hydroxide. Chemical Engineering Science, 2002, 57, 2945-2953.	3.8	342
5	Approaching complexity by stochastic methods: From biological systems to turbulence. Physics Reports, 2011, 506, 87-162.	25.6	258
6	Multiple-point geostatistical modeling based on the cross-correlation functions. Computational Geosciences, 2012, 16, 779-797.	2.4	238
7	Asphalt flocculation and deposition: I. The onset of precipitation. AIChE Journal, 1996, 42, 10-22.	3.6	234
8	Stochastic transport in disordered systems. Journal of Chemical Physics, 1983, 78, 6849-6864.	3.0	179
9	Dispersion in flow through porous media—II. One-phase flow. Chemical Engineering Science, 1986, 41, 2103-2122.	3.8	178
10	Elastic percolation models for cohesive mechanical failure in heterogeneous systems. Physical Review B, 1986, 33, 7848-7851.	3.2	157
11	Cross-Correlation Function for Accurate Reconstruction of Heterogeneous Media. Physical Review Letters, 2013, 110, 078002.	7.8	148
12	Mechanics of disordered solids. I. Percolation on elastic networks with central forces. Physical Review B, 1993, 47, 695-702.	3.2	143
13	Machine learning in geo- and environmental sciences: From small to large scale. Advances in Water Resources, 2020, 142, 103619.	3.8	138
14	Reconstruction of three-dimensional porous media using a single thin section. Physical Review E, 2012, 85, 066709.	2.1	131
15	Pore network modelling of two-phase flow in porous rock: the effect of correlated heterogeneity. Advances in Water Resources, 2001, 24, 257-277.	3.8	130
16	Flow, Transport, and Reaction in Porous Media: Percolation Scaling, Critical-Path Analysis, and Effective Medium Approximation. Reviews of Geophysics, 2017, 55, 993-1078.	23.0	130
17	Mechanics of disordered solids. II. Percolation on elastic networks with bond-bending forces. Physical Review B, 1993, 47, 703-712.	3.2	129
18	Silicon carbide membranes for gas separation applications. Journal of Membrane Science, 2007, 288, 290-297.	8.2	128

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19	Invasion percolation: new algorithms and universality classes. Journal of Physics A, 1999, 32, L521-L529.	1.6	121
20	Percolation Theory of Two-Phase Relative Permeability. SPE Reservoir Engineering, 1992, 7, 123-132.	0.5	119
21	Computer simulation of particle transport processes in flow through porous media. Chemical Engineering Science, 1991, 46, 1977-1993.	3.8	109
22	Experiments and Simulation of Transport and Separation of Gas Mixtures in Carbon Molecular Sieve Membranes. Journal of Physical Chemistry A, 1998, 102, 8580-8589.	2.5	102
23	Three-Dimensional Stochastic Characterization of Shale SEM Images. Transport in Porous Media, 2015, 110, 521-531.	2.6	100
24	Real-space renormalization and effective-medium approximation to the percolation conduction problem. Physical Review B, 1983, 28, 307-311.	3.2	99
25	Scaling properties of a percolation model with long-range correlations. Physical Review E, 1996, 54, 3870-3880.	2.1	99
26	Porous Silicon Carbide Sintered Substrates for High-Temperature Membranes. Industrial & Engineering Chemistry Research, 2000, 39, 3264-3271.	3.7	99
27	Asphalt flocculation and deposition: II. Formation and growth of fractal aggregates. AIChE Journal, 1996, 42, 3318-3332.	3.6	96
28	Scaling Laws for Fracture of Heterogeneous Materials and Rock. Physical Review Letters, 1996, 77, 3689-3692.	7.8	95
29	Transport and Morphological Characteristics of Polyetherimide-Based Carbon Molecular Sieve Membranes. Industrial & Engineering Chemistry Research, 1999, 38, 3367-3380.	3.7	95
30	Linking Morphology of Porous Media to Their Macroscopic Permeability by Deep Learning. Transport in Porous Media, 2020, 131, 427-448.	2.6	95
31	Nonequilibrium Molecular Dynamics Simulation of Transport of Gas Mixtures in Nanopores. Physical Review Letters, 1998, 80, 3511-3514.	7.8	89
32	Fractal distribution of earthquake hypocenters and its relation to fault patterns and percolation. Physical Review Letters, 1993, 70, 2186-2189.	7.8	88
33	Chemisorption, physisorption and hysteresis during hydrogen storage in carbon nanotubes. International Journal of Hydrogen Energy, 2014, 39, 1390-1397.	7.1	88
34	Fractal and superdiffusive transport and hydrodynamic dispersion in heterogeneous porous media. Transport in Porous Media, 1993, 13, 3-40.	2.6	87
35	Percolation Theory Generates a Physically Based Description of Tortuosity in Saturated and Unsaturated Porous Media. Soil Science Society of America Journal, 2013, 77, 1920-1929.	2.2	87
36	MS-CCSIM: Accelerating pattern-based geostatistical simulation of categorical variables using a multi-scale search in Fourier space. Computers and Geosciences, 2014, 67, 75-88.	4.2	87

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37	Molecular dynamics simulations of adsorption and diffusion of gases in silicon-carbide nanotubes. Journal of Chemical Physics, 2010, 132, 014310.	3.0	85
38	Elastic properties of three-dimensional percolation networks with stretching and bond-bending forces. Physical Review B, 1988, 38, 7173-7176.	3.2	84
39	DISPERSION IN DISORDERED POROUS MEDIA. Chemical Engineering Communications, 1983, 23, 329-341.	2.6	82
40	Mechanics of disordered solids. III. Fracture properties. Physical Review B, 1993, 47, 713-722.	3.2	82
41	Characterization of long-range correlations in complex distributions and profiles. Physical Review E, 1997, 56, 712-722.	2.1	81
42	Multiscale study for stochastic characterization of shale samples. Advances in Water Resources, 2016, 89, 91-103.	3.8	81
43	Preparation and reactive applications of nanoporous silicon carbide membranes. Chemical Engineering Science, 2004, 59, 4957-4965.	3.8	80
44	Invasion percolation with long-range correlations: First-order phase transition and nonuniversal scaling properties. Physical Review E, 2000, 61, 4920-4934.	2.1	78
45	Transport of large particles in flow through porous media. Physical Review A, 1987, 36, 5304-5309.	2.5	76
46	Surface tension of binary liquid-vapor mixtures: A comparison of mean-field and scaling theories. Journal of Chemical Physics, 1991, 95, 6749-6761.	3.0	75
47	Nonequilibrium molecular dynamics simulation of transport and separation of gases in carbon nanopores. I. Basic results. Journal of Chemical Physics, 1999, 111, 3252-3264.	3.0	75
48	Multiscale and multiresolution modeling of shales and their flow and morphological properties. Scientific Reports, 2015, 5, 16373.	3.3	74
49	Enhancing multiple-point geostatistical modeling: 1. Graph theory and pattern adjustment. Water Resources Research, 2016, 52, 2074-2098.	4.2	74
50	Diffusion of Large Molecules in Porous Media. Physical Review Letters, 1989, 62, 629-632.	7.8	73
51	Structural characterization of polyetherimide-based carbon molecular sieve membranes. AIChE Journal, 2000, 46, 2245-2255.	3.6	73
52	Hydrodynamics of particulate motion in porous media. Physical Review Letters, 1991, 66, 1169-1172.	7.8	71
53	Nonlinear transport processes in disordered media. AIChE Journal, 1993, 39, 369-386.	3.6	71
54	Dispersion in flow through porous media-II. Two-phase flow. Chemical Engineering Science, 1986, 41, 2123-2136.	3.8	69

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55	A novel sacrificial interlayer-based method for the preparation of silicon carbide membranes. Journal of Membrane Science, 2008, 316, 73-79.	8.2	69
56	Enhancing images of shale formations by a hybrid stochastic and deep learning algorithm. Neural Networks, 2019, 118, 310-320.	5.9	69
57	Enhancing multiple-point geostatistical modeling: 2. Iterative simulation and multiple distance function. Water Resources Research, 2016, 52, 2099-2122.	4.2	68
58	Mapping stochastic processes onto complex networks. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P07046.	2.3	67
59	Critical properties of viscoelasticity of gels and elastic percolation networks. Physical Review Letters, 1990, 65, 725-728.	7.8	65
60	Data mining and machine learning for identifying sweet spots in shale reservoirs. Expert Systems With Applications, 2017, 88, 435-447.	7.6	65
61	Position-space renormalization for elastic percolation networks with bond-bending forces. Physical Review B, 1985, 31, 1671-1673.	3.2	63
62	Nonequilibrium molecular dynamics simulation of transport and separation of gases in carbon nanopores. II. Binary and ternary mixtures and comparison with the experimental data. Journal of Chemical Physics, 2000, 112, 910-922.	3.0	63
63	Image-based modeling of granular porous media. Geophysical Research Letters, 2017, 44, 4738-4746.	4.0	59
64	Accelerating geostatistical simulations using graphics processing units (GPU). Computers and Geosciences, 2012, 46, 51-59.	4.2	58
65	Highly permeable porous silicon carbide support tubes for the preparation of nanoporous inorganic membranes. Journal of Membrane Science, 2014, 451, 192-204.	8.2	57
66	Stochastic shale permeability matching: Three-dimensional characterization and modeling. International Journal of Coal Geology, 2016, 165, 231-242.	5.0	57
67	Statistical Mechanics and Molecular Simulation of Adsorption in Microporous Materials: Pillared Clays and Carbon Molecular Sieve Membranes. Journal of Physical Chemistry B, 2000, 104, 3892-3905.	2.6	55
68	Nonequilibrium molecular dynamics simulations of transport and separation of gas mixtures in nanoporous materials. Physical Review E, 2000, 62, 6942-6948.	2.1	54
69	Pore-scale simulation of flow of CO ₂ and brine in reconstructed and actual 3D rock cores. Journal of Petroleum Science and Engineering, 2017, 155, 21-33.	4.2	54
70	Percolation and fracture in disordered solids and granular media: Approach to a fixed point. Physical Review Letters, 1992, 68, 608-611.	7.8	53
71	Field evaluation of carbon molecular sieve membranes for the separation and purification of hydrogen from coal- and biomass-derived syngas. Journal of Membrane Science, 2014, 450, 81-92.	8.2	53
72	Molecular dynamics simulation of pressure-driven water flow in silicon-carbide nanotubes. Journal of Chemical Physics, 2011, 135, 204509.	3.0	52

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73	Reconstruction of nonstationary disordered materials and media: Watershed transform and cross-correlation function. <i>Physical Review E</i> , 2015, 91, 032401.	2.1	52
74	Molecular Dynamics Simulation of Hydration and Swelling of Mixed-Layer Clays. <i>Journal of Physical Chemistry C</i> , 2018, 122, 14631-14639.	3.1	52
75	Turbulencelike Behavior of Seismic Time Series. <i>Physical Review Letters</i> , 2009, 102, 014101.	7.8	49
76	Long-range correlated percolation and flow and transport in heterogeneous porous media. <i>Journal De Physique, I</i> , 1994, 4, 1263-1268.	1.2	49
77	Transport of macromolecules in porous media. <i>Journal of Chemical Physics</i> , 1992, 96, 4718-4728.	3.0	48
78	Effect of long-range correlations on transport phenomena in disordered media. <i>AIChE Journal</i> , 1995, 41, 229-240.	3.6	48
79	Fabrication of Grapheneâ€“Polyimide Nanocomposites with Superior Electrical Conductivity. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 43230-43238.	8.0	47
80	Coarsening of Heterogeneous Media: Application of Wavelets. <i>Physical Review Letters</i> , 1997, 79, 4385-4388.	7.8	46
81	Adsorption Isotherms of Arsenic on Conditioned Layered Double Hydroxides in the Presence of Various Competing Ions. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 2220-2226.	3.7	46
82	Dispersion in porous media, continuous-time random walks, and percolation. <i>Physical Review E</i> , 2012, 85, 016316.	2.1	46
83	Overview of Laboratory and Modeling Studies of Carbon Dioxide Sequestration in Coal Beds. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 2887-2901.	3.7	45
84	Localization of Elastic Waves in Heterogeneous Media with Off-Diagonal Disorder and Long-Range Correlations. <i>Physical Review Letters</i> , 2005, 94, 165505.	7.8	44
85	Analysis of Non-stationary Data for Heart-rate Fluctuations in Terms of Drift and Diffusion Coefficients. <i>Journal of Biological Physics</i> , 2006, 32, 117-128.	1.5	44
86	Self-affine fractal distributions of the bulk density, elastic moduli, and seismic wave velocities of rock. <i>Physical Review E</i> , 2005, 71, 046301.	2.1	43
87	Pore network simulation of imbibition into paper during coating: I. Model development. <i>AIChE Journal</i> , 2001, 47, 519-535.	3.6	42
88	Study of CO ₂ Diffusion and Adsorption on Calcined Layered Double Hydroxides: The Effect of Particle Size. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 6150-6157.	3.7	42
89	Multiresolution Wavelet Scale Up of Unstable Miscible Displacements in Flow Through Heterogeneous Porous Media. <i>Transport in Porous Media</i> , 2004, 57, 75-102.	2.6	40
90	Molecular Dynamics Simulation of Hydration and Swelling of Mixed-Layer Clays in the Presence of Carbon Dioxide. <i>Journal of Physical Chemistry C</i> , 2019, 123, 4243-4255.	3.1	40

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91	Toward a Process-Based Molecular Model of SiC Membranes. 1. Development of a Reactive Force Field. Journal of Physical Chemistry C, 2013, 117, 3308-3319.	3.1	39
92	Reconstruction, optimization, and design of heterogeneous materials and media: Basic principles, computational algorithms, and applications. Physics Reports, 2021, 939, 1-82.	25.6	39
93	Upscaling of the permeability by multiscale wavelet transformations and simulation of multiphase flows in heterogeneous porous media. Computational Geosciences, 2009, 13, 187-214.	2.4	38
94	Geostatistical Simulation and Reconstruction of Porous Media by a Cross-Correlation Function and Integration of Hard and Soft Data. Transport in Porous Media, 2015, 107, 871-905.	2.6	38
95	Nucleation of Salt Crystals in Clay Minerals: Molecular Dynamics Simulation. Journal of Physical Chemistry Letters, 2017, 8, 3166-3172.	4.6	38
96	Renormalization group analysis and numerical simulation of propagation and localization of acoustic waves in heterogeneous media. Physical Review B, 2007, 75, .	3.2	37
97	Hydrogen sorption hysteresis and superior storage capacity of silicon-carbide nanotubes over their carbon counterparts. International Journal of Hydrogen Energy, 2014, 39, 21107-21115.	7.1	37
98	Thermal Evolution of the Structure of a Mg~Al~CO3 Layered Double Hydroxide:~ Sorption Reversibility Aspects. Industrial & Engineering Chemistry Research, 2004, 43, 4559-4570.	3.7	36
99	Molecular dynamics simulation of diffusion in pillared clays. AIChE Journal, 1995, 41, 456-468.	3.6	35
100	Wavelet identification of the spatial distribution of fractures. Geophysical Research Letters, 2001, 28, 611-614.	4.0	35
101	Pore network model of transport and separation of binary gas mixtures in nanoporous membranes. Journal of Membrane Science, 2008, 315, 48-57.	8.2	35
102	Pore-network model of evaporation-induced salt precipitation in porous media: The effect of correlations and heterogeneity. Advances in Water Resources, 2018, 112, 59-71.	3.8	35
103	Saturation Dependence of Non~Fickian Transport in Porous Media. Water Resources Research, 2019, 55, 1153-1166.	4.2	35
104	Transient Diffusion and Conduction in Heterogeneous Media:~ Beyond the Classical Effective-Medium Approximation. Industrial & Engineering Chemistry Research, 1997, 36, 3043-3052.	3.7	34
105	Gas and solute diffusion in partially saturated porous media: Percolation theory and Effective Medium Approximation compared with lattice Boltzmann simulations. Journal of Geophysical Research: Solid Earth, 2015, 120, 182-190.	3.4	34
106	Modeling relative permeability of water in soil: Application of effective~medium approximation and percolation theory. Water Resources Research, 2016, 52, 5025-5040.	4.2	34
107	ON THE DETERMINATION OF TRANSPORT PROPERTIES OF DISORDERED SYSTEMS. Chemical Engineering Communications, 1988, 64, 177-195.	2.6	33
108	Upscaling and Simulation of Waterflooding in Heterogeneous Reservoirs Using Wavelet Transformations: Application to the SPE-10 Model. Transport in Porous Media, 2008, 72, 311-338.	2.6	33

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109	Scaling, multifractality, and long-range correlations in well log data of large-scale porous media. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2011, 390, 2096-2111.	2.6	33
110	Use of microseismicity for determining the structure of the fracture network of large-scale porous media. <i>Physical Review E</i> , 2013, 87, .	2.1	33
111	Computer simulation of the effect of deformation on the morphology and flow properties of porous media. <i>Physical Review E</i> , 2016, 94, 042903.	2.1	33
112	Experimental investigation of hydrogen adsorption in doped silicon-carbide nanotubes. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 369-374.	7.1	33
113	Adsorption-induced swelling of porous media. <i>International Journal of Greenhouse Gas Control</i> , 2017, 57, 1-13.	4.6	33
114	Efficient Transport Between Disjoint Nanochannels by a Water Bridge. <i>Physical Review Letters</i> , 2019, 122, 214506.	7.8	33
115	Dynamics of two-phase flow in porous media: Simultaneous invasion of two fluids. <i>AIChE Journal</i> , 1999, 45, 1365-1382.	3.6	32
116	Pore network model of deactivation of immobilized glucose isomerase in packed-bed reactors. Part III: Multiscale modelling. <i>Chemical Engineering Science</i> , 2003, 58, 4935-4951.	3.8	32
117	Preparation of Hydrotalcite Thin Films Using an Electrophoretic Technique. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 9127-9132.	3.7	32
118	Calculation of the effective permeabilities of field-scale porous media. <i>Chemical Engineering Science</i> , 2000, 55, 4495-4513.	3.8	31
119	Fabrication of silicon carbide membranes on highly permeable supports. <i>Journal of Membrane Science</i> , 2017, 537, 239-247.	8.2	31
120	Nonuniversality of invasion percolation in two-dimensional systems. <i>Physical Review E</i> , 2002, 65, 035101.	2.1	30
121	Pore network simulation of fluid imbibition into paper during coating: II. Characterization of paper's morphology and computation of its effective permeability tensor. <i>Chemical Engineering Science</i> , 2004, 59, 2265-2280.	3.8	30
122	Network model for the evolution of the pore structure of silicon-carbide membranes during their fabrication. <i>Journal of Membrane Science</i> , 2010, 356, 138-146.	8.2	30
123	Process Intensification in Hydrogen Production from Biomass-Derived Syngas. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 10986-10993.	3.7	30
124	Two-phase flow of CO ₂ -brine in a heterogeneous sandstone: Characterization of the rock and comparison of the lattice-Boltzmann, pore-network, and direct numerical simulation methods. <i>Advances in Water Resources</i> , 2020, 135, 103469.	3.8	30
125	Pore network simulation of fluid imbibition into paper during coating—III: modelling of the two-phase flow. <i>Chemical Engineering Science</i> , 2004, 59, 2281-2296.	3.8	29
126	Dynamic renormalization group analysis of propagation of elastic waves in two-dimensional heterogeneous media. <i>Physical Review B</i> , 2008, 77, .	3.2	29

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127	Computer simulation of gas generation and transport in landfills. V: Use of artificial neural network and the genetic algorithm for short- and long-term forecasting and planning. Chemical Engineering Science, 2011, 66, 2646-2659.	3.8	29
128	Morphology, propagation dynamics and scaling characteristics of drying fronts in porous media. Geophysical Research Letters, 2012, 39, .	4.0	29
129	Multiresolution wavelet coarsening and analysis of transport in heterogeneous media. Physica A: Statistical Mechanics and Its Applications, 2002, 316, 160-188.	2.6	28
130	Atomistic simulation of nanoporous layered double hydroxide materials and their properties. I. Structural modeling. Journal of Chemical Physics, 2005, 122, 214713.	3.0	28
131	Generation of long-range correlations in large systems as an optimization problem. Physical Review E, 2006, 73, 056121.	2.1	28
132	Development of optimal models of porous media by combining static and dynamic data: The permeability and porosity distributions. Physical Review E, 2007, 75, 056311.	2.1	28
133	Determination of the true pore size distribution by flow permporometry experiments: An invasion percolation model. Journal of Membrane Science, 2011, 367, 55-62.	8.2	28
134	A Study of the Role of Microfractures in Counter-Current Spontaneous Imbibition by Lattice Boltzmann Simulation. Transport in Porous Media, 2020, 133, 313-332.	2.6	28
135	Diffusion, adsorption, and reaction in pillared clays. I. Rod-like molecules in a regular pore space. Journal of Chemical Physics, 1990, 92, 5107-5118.	3.0	27
136	Molecular dynamics simulation of gas mixtures in porous media. I. Adsorption. Journal of Chemical Physics, 1998, 108, 2178-2188.	3.0	27
137	Nonequilibrium molecular dynamics simulations of transport and separation of supercritical fluid mixtures in nanoporous membranes. I. Results for a single carbon nanopore. Journal of Chemical Physics, 2003, 119, 6810-6822.	3.0	27
138	The Preparation and Characterization of Hydrotalcite Thin Films. Industrial & Engineering Chemistry Research, 2009, 48, 5794-5801.	3.7	27
139	Electrical Conductivity of Partially Saturated Packings of Particles. Transport in Porous Media, 2017, 118, 1-16.	2.6	27
140	Physics- and image-based prediction of fluid flow and transport in complex porous membranes and materials by deep learning. Journal of Membrane Science, 2021, 622, 119050.	8.2	27
141	Effect of polystyrene on the morphology and physical properties of silicon carbide nanofibers. Materials Chemistry and Physics, 2009, 118, 259-263.	4.0	26
142	Nonuniversality of the Archie exponent due to multifractality of resistivity well logs. Geophysical Research Letters, 2015, 42, 10,655.	4.0	26
143	Nanojunction Effects on Water Flow in Carbon Nanotubes. Scientific Reports, 2018, 8, 7752.	3.3	26
144	Image-based modeling of gas adsorption and deformation in porous media. Scientific Reports, 2018, 8, 8249.	3.3	26

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145	Statistical mechanics and molecular simulation of adsorption of ternary gas mixtures in nanoporous materials. Journal of Chemical Physics, 2001, 114, 7196-7210.	3.0	25
146	Development of optimal models of porous media by combining static and dynamic data: The porosity distribution. Physical Review E, 2006, 74, 026308.	2.1	25
147	Localization properties of acoustic waves in the random-dimer media. Physical Review B, 2008, 78, .	3.2	25
148	Fabrication of high-surface area nanoporous SiOC ceramics using pre-ceramic polymer precursors and a sacrificial template: Precursor effects. Microporous and Mesoporous Materials, 2017, 241, 338-345.	4.4	25
149	Site-bond invasion percolation with fluid trapping. Physica A: Statistical Mechanics and Its Applications, 1998, 260, 231-243.	2.6	24
150	Molecular dynamics simulations of transport and separation of carbon dioxide-alkane mixtures in carbon nanopores. Journal of Chemical Physics, 2004, 120, 8172-8185.	3.0	24
151	Discrete simulation of the dynamics of spread of extreme opinions in a society. Physica A: Statistical Mechanics and Its Applications, 2006, 364, 537-543.	2.6	24
152	Preparation of Polyetherimide Nanoparticles by an Electrospray Technique. Industrial & Engineering Chemistry Research, 2007, 46, 3348-3357.	3.7	24
153	On the Use of Porous and Nonporous Fillers in the Fabrication of Silicon Carbide Membranes. Industrial & Engineering Chemistry Research, 2013, 52, 10269-10275.	3.7	24
154	Toward a Process-Based Molecular Model of SiC Membranes. 2. Reactive Dynamics Simulation of the Pyrolysis of Polymer Precursor To Form Amorphous SiC. Journal of Physical Chemistry C, 2013, 117, 3320-3329.	3.1	24
155	Hertz-Mindlin Theory of Contacting Grains and the Effective-Medium Approximation for the Permeability of Deforming Porous Media. Geophysical Research Letters, 2019, 46, 8039-8045.	4.0	24
156	Molecular Dynamics Study of the Effect of Layer Charge and Interlayer Cations on Swelling of Mixed-Layer Chlorite-Montmorillonite Clays. Journal of Physical Chemistry C, 2020, 124, 2553-2561.	3.1	24
157	Simulating fluid flow in complex porous materials by integrating the governing equations with deep-layered machines. Npj Computational Materials, 2021, 7, .	8.7	24
158	Atomistic simulation of nanoporous layered double hydroxide materials and their properties. II. Adsorption and diffusion. Journal of Chemical Physics, 2007, 127, 224701.	3.0	23
159	Experimental studies and computer simulation of the preparation of nanoporous silicon-carbide membranes by chemical-vapor infiltration/chemical-vapor deposition techniques. Chemical Engineering Science, 2008, 63, 1460-1470.	3.8	23
160	Microstructural characterization of random packings of cubic particles. Scientific Reports, 2016, 6, 35024.	3.3	23
161	On correction to scaling for two- and three-dimensional scalar and vector percolation. Journal of Statistical Physics, 1991, 62, 453-461.	1.2	22
162	Computer simulation of gas generation and transport in landfills. III: Development of landfills™ optimal model. Chemical Engineering Science, 2007, 62, 6378-6390.	3.8	22

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163	Molecular simulation of protein dynamics in nanopores. II. Diffusion. Journal of Chemical Physics, 2009, 130, 085105.	3.0	22
164	Upscaled Unstructured Computational Grids for Efficient Simulation of Flow in Fractured Porous Media. Transport in Porous Media, 2010, 83, 195-218.	2.6	22
165	Upscaling of solute transport in disordered porous media by wavelet transformations. Advances in Water Resources, 2016, 96, 180-189.	3.8	22
166	Higher-order correlation functions in disordered media: Computational algorithms and application to two-phase heterogeneous materials. Physical Review E, 2018, 98, .	2.1	22
167	Title is missing!. Transport in Porous Media, 2000, 41, 325-347.	2.6	21
168	Numerical simulation of the localization of elastic waves in two- and three-dimensional heterogeneous media. Physical Review B, 2008, 78, .	3.2	21
169	Analysis of Cross Correlations Between Well Logs of Hydrocarbon Reservoirs. Transport in Porous Media, 2011, 90, 445-464.	2.6	21
170	A stochastic multiscale algorithm for modeling complex granular materials. Granular Matter, 2018, 20, 1.	2.2	21
171	Diffusion in disordered systems with multiple families of transport paths. Physical Review Letters, 1993, 70, 2581-2584.	7.8	20
172	Title is missing!. Transport in Porous Media, 2001, 44, 465-485.	2.6	20
173	Pore network model of deactivation of immobilized glucose isomerase in packed-bed reactors. Chemical Engineering Science, 2001, 56, 2803-2819.	3.8	20
174	Fluid flow and conduction in two-dimensional fractures with rough, self-affine surfaces: A comparative study. Journal of Geophysical Research, 2003, 108, .	3.3	20
175	Molecular pore-network model for nanoporous materials. I: Application to adsorption in silicon-carbide membranes. Journal of Membrane Science, 2009, 335, 5-12.	8.2	20
176	Molecular pore-network model for nanoporous materials. II: Application to transport and separation of gaseous mixtures in silicon-carbide membranes. Journal of Membrane Science, 2009, 345, 323-330.	8.2	20
177	Stochastic transport in heterogeneous media with multiple families of transport paths. Physical Review E, 1993, 48, 2776-2785.	2.1	19
178	Molecular dynamics simulations of transport and separation of supercritical carbon dioxide-alkane mixtures in supported membranes. Chemical Engineering Science, 2007, 62, 2777-2789.	3.8	19
179	Molecular simulation of protein dynamics in nanopores. I. Stability and folding. Journal of Chemical Physics, 2008, 128, 115105.	3.0	19
180	Efficient Computational Strategies for Solving Global Optimization Problems. Computing in Science and Engineering, 2010, 12, 74-83.	1.2	19

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181	Quantifying accuracy of stochastic methods of reconstructing complex materials by deep learning. Physical Review E, 2020, 101, 043301.	2.1	19
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