Huisu Chen, éˆæ è‹•

List of Publications by Year
in descending order

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111 papers	3,419 citations	126858 33 h-index	175177 52 g-index
111 all docs	111 docs citations	111 times ranked	1921 citing authors

#	Article	IF	Citations
1	The effect of hybrid fibers and expansive agent on the shrinkage and permeability of high-performance concrete. Cement and Concrete Research, 2001, 31, 595-601.	4.6	254
2	The effect of silica fume and steel fiber on the dynamic mechanical performance of high-strength concrete. Cement and Concrete Research, 1999, 29, 423-426.	4.6	140
3	Aggregate shape effect on the diffusivity of mortar: A 3D numerical investigation by random packing models of ellipsoidal particles and of convex polyhedral particles. Computers and Structures, 2014, 144, 40-51.	2.4	127
4	Development of granular expanded perlite/paraffin phase change material composites and prevention of leakage. Solar Energy, 2016, 137, 179-188.	2.9	100
5	Investigation of pore structure and mechanical property of cement paste subjected to the coupled action of freezing/thawing and calcium leaching. Cement and Concrete Research, 2018, 109, 133-146.	4.6	86
6	Modeling of the internal damage of saturated cement paste due to ice crystallization pressure during freezing. Cement and Concrete Composites, 2011, 33, 562-571.	4.6	85
7	Hydration behavior of magnesium potassium phosphate cement and stability analysis of its hydration products through thermodynamic modeling. Cement and Concrete Research, 2017, 98, 101-110.	4.6	82
8	Development of thermal energy storage composites and prevention of PCM leakage. Applied Energy, 2014, 135, 225-233.	5.1	80
9	Analytical effective elastic properties of particulate composites with soft interfaces around anisotropic particles. Composites Science and Technology, 2016, 129, 10-18.	3.8	71
10	Simulation of the properties of MgO-MgfCl2-H2O system by thermodynamic method. Cement and Concrete Research, 2015, 68, 105-111.	4.6	67
11	Estimation of the ionic diffusivity of virtual cement paste by random walk algorithm. Construction and Building Materials, 2012, 28, 405-413.	3.2	65
12	Analysis of damage development in cement paste due to ice nucleation at different temperatures. Cement and Concrete Composites, 2014, 53, 1-9.	4.6	64
13	Numerical investigation of effect of particle shape and particle size distribution on fresh cement paste microstructure via random sequential packing of dodecahedral cement particles. Computers and Structures, 2013, 114-115, 35-45.	2.4	60
14	Effects of particle size distribution, shape and volume fraction of aggregates on the wall effect of concrete via random sequential packing of polydispersed ellipsoidal particles. Physica A: Statistical Mechanics and Its Applications, 2013, 392, 416-426.	1.2	60
15	An overlapping detection algorithm for random sequential packing of elliptical particles. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 2452-2467.	1.2	56
16	Thermo-mechanical coupling effect on fatigue behavior of cement asphalt mortar. International Journal of Fatigue, 2013, 51, 116-120.	2.8	56
17	Influences of geometric patterns of 3D spacer fabric on tensile behavior of concrete canvas. Construction and Building Materials, 2014, 65, 620-629.	3.2	56
18	Quantification of the influences of aggregate shape and sampling method on the overestimation of ITZ thickness in cementitious materials. Powder Technology, 2018, 326, 168-180.	2.1	53

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19	Mesostructural characterization of particulate composites via a contact detection algorithm of ellipsoidal particles. Powder Technology, 2012, 221, 296-305.	2.1	51
20	Analytical models for determining the dosage of capsules embedded in self-healing materials. Computational Materials Science, 2013, 68, 81-89.	1.4	50
21	Numerical investigation of the effects of freezing on micro-internal damage and macro-mechanical properties of cement pastes. Cold Regions Science and Technology, 2014, 106-107, 141-152.	1.6	49
22	Corrosion behavior of steel bars immersed in simulated pore solutions of alkali-activated slag mortar. Construction and Building Materials, 2017, 143, 289-297.	3.2	48
23	Microstructure-based modelling of drying shrinkage and microcracking of cement paste at high relative humidity. Construction and Building Materials, 2016, 126, 410-425.	3.2	46
24	Prediction of transport behaviors of particulate composites considering microstructures of soft interfacial layers around ellipsoidal aggregate particles. Soft Matter, 2014, 10, 627-638.	1.2	43
25	Integration of form-stable paraffin/nanosilica phase change material composites into vacuum insulation panels for thermal energy storage. Applied Energy, 2015, 159, 601-609.	5.1	43
26	Aggregate shape effect on the overestimation of ITZ thickness: Quantitative analysis of Platonic particles. Powder Technology, 2016, 289, 1-17.	2.1	43
27	Numerical modeling of drying shrinkage deformation of cement-based composites by coupling multiscale structure model with 3D lattice analyses. Computers and Structures, 2017, 178, 88-104.	2.4	43
28	Parking simulation of three-dimensional multi-sized star-shaped particles. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 035008.	0.8	42
29	A 2D elliptical model of random packing for aggregates in concrete. Journal Wuhan University of Technology, Materials Science Edition, 2010, 25, 717-720.	0.4	40
30	Microstructure-based modeling of the diffusivity of cement paste with micro-cracks. Construction and Building Materials, 2013, 38, 1107-1116.	3.2	40
31	Microstructural characterization of fresh cement paste via random packing of ellipsoidal cement particles. Materials Characterization, 2012, 66, 16-23.	1.9	37
32	Overestimation of ITZ thickness around regular polygon and ellipse aggregate. Computers and Structures, 2017, 182, 205-218.	2.4	36
33	Effect of particle morphologies on the percolation of particulate porous media: A study of superballs. Powder Technology, 2018, 335, 388-400.	2.1	35
34	Analytical and modeling investigations of volume fraction of interfacial layers around ellipsoidal aggregate particles in multiphase materials. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 015005.	0.8	34
35	Overestimation of the interface thickness around convex-shaped grain by sectional analysis. Acta Materialia, 2007, 55, 3943-3949.	3.8	33
36	Geometrical percolation threshold of congruent cuboidlike particles in overlapping particle systems. Physical Review E, 2018, 98, 012134.	0.8	33

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37	Evaluation of Mesostructure of Particulate Composites by Quantitative Stereology and Random Sequential Packing Model of Mono-/Polydisperse Convex Polyhedral Particles. Industrial & Engineering Chemistry Research, 2013, 52, 6678-6693.	1.8	32
38	The fraction of overlapping interphase around 2D and 3D polydisperse non-spherical particles: Theoretical and numerical models. Computer Methods in Applied Mechanics and Engineering, 2019, 345, 728-747.	3.4	32
39	Interfacial effect on physical properties of composite media: Interfacial volume fraction with non-spherical hard-core-soft-shell-structured particles. Scientific Reports, 2015, 5, 16003.	1.6	31
40	Improvement of mechanical properties of concrete canvas by anhydrite-modified calcium sulfoaluminate cement. Journal of Composite Materials, 2016, 50, 1937-1950.	1.2	31
41	Transport properties of concrete-like granular materials interacted by their microstructures and particle components. International Journal of Modern Physics B, 2018, 32, 1840011.	1.0	31
42	Thermodynamic modeling of magnesium ammonium phosphate cement and stability of its hydration products. Cement and Concrete Research, 2020, 138, 106223.	4.6	31
43	Characterization of the wall effect of concrete via random packing of polydispersed superball-shaped aggregates. Materials Characterization, 2019, 154, 335-343.	1.9	30
44	Design and construction application of concrete canvas for slope protection. Powder Technology, 2019, 344, 937-946.	2.1	30
45	Measurement of continuum percolation properties of two-dimensional particulate systems comprising congruent and binary superellipses. Powder Technology, 2019, 347, 17-26.	2.1	28
46	Experimental study of the mechanical behavior of FRP-reinforced concrete canvas panels. Composite Structures, 2017, 176, 608-616.	3.1	27
47	Evolution of microstructures of cement paste via continuous-based hydration model of non-spherical cement particles. Composites Part B: Engineering, 2020, 185, 107795.	5.9	27
48	Quantitative characterization of the microstructure of fresh cement paste via random packing of polydispersed Platonic cement particles. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 075003.	0.8	26
49	Application design of concrete canvas (CC) in soil reinforced structure. Geotextiles and Geomembranes, 2016, 44, 557-567.	2.3	26
50	Multi-scale modelling for diffusivity based on practical estimation of interfacial properties in cementitious materials. Powder Technology, 2017, 307, 109-118.	2.1	26
51	Effect of pore characteristic on the percolation threshold and diffusivity of porous media comprising overlapping concave-shaped pores. International Journal of Heat and Mass Transfer, 2019, 138, 1333-1345.	2.5	24
52	Aggregate shape effect on the overestimation of interface thickness for spheroidal particles. Powder Technology, 2017, 313, 218-230.	2.1	22
53	Numerical modeling on the influence of particle shape on ITZâ€™s microstructure and macro-properties of cementitious composites: a critical review. Journal of Sustainable Cement-Based Materials, 2018, 7, 248-269.	1.7	22
54	Theoretical estimation for the volume fraction of interfacial layers around convex particles in multiphase materials. Powder Technology, 2013, 249, 513-515.	2.1	21

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55	Strategy for interfacial overlapping degree in multiphase materials with complex convex particles. Powder Technology, 2015, 283, 455-461.	2.1	21
56	The influence of fiber orientation on bleeding of steel fiber reinforced cementitious composites. Cement and Concrete Composites, 2018, 92, 125-134.	4.6	21
57	Lattice Boltzmann simulation of fluid flow through random packing beds of Platonic particles: Effect of particle characteristics. Particuology, 2019, 47, 41-53.	2.0	21
58	Modeling of soft interfacial volume fraction in composite materials with complex convex particles. Journal of Chemical Physics, 2014, 140, 034704.	1.2	20
59	Stochastic heterogeneity as fundamental basis for the design and evaluation of experiments. Cement and Concrete Composites, 2008, 30, 506-514.	4.6	19
60	Modeling of self-healing efficiency for cracks due to unhydrated cement nuclei in hardened cement paste. Procedia Engineering, 2012, 27, 281-290.	1.2	19
61	A probabilistic method for determining the volume fraction of pre-embedded capsules in self-healing materials. Smart Materials and Structures, 2014, 23, 115009.	1.8	19
62	Influence of 3D spacer fabric on drying shrinkage of concrete canvas. Journal of Industrial Textiles, 2016, 45, 1457-1476.	1.1	19
63	Numerical study for the percolation threshold and transport properties of porous composites comprising non-centrosymmetrical superovoidal pores. Computer Methods in Applied Mechanics and Engineering, 2020, 361, 112815.	3.4	18
64	Quantitative solution on dosage of repair-agent for healing of 3D simplified cracks in materials: short capsule model. Materials and Structures/Materiaux Et Constructions, 2011, 44, 987-995.	1.3	17
65	Analytical solution on dosage of self-healing agents in cementitious materials: Long capsule model. Journal of Intelligent Material Systems and Structures, 2014, 25, 47-57.	1.4	17
66	Determination of Mechanical Properties of Cement Asphalt Mortar via UPV Method. Journal of Materials in Civil Engineering, 2014, 26, .	1.3	17
67	The formation mechanism of recirculating wake for steady flow through and around arrays of cylinders. Physics of Fluids, 2019, 31, .	1.6	16
68	Analytical model for effects of capsule shape on the healing efficiency in self-healing materials. PLoS ONE, 2017, 12, e0187299.	1.1	15
69	Investigation of drag properties for flow through and around square arrays of cylinders at low Reynolds numbers. Chemical Engineering Science, 2019, 199, 285-301.	1.9	15
70	Quantitative solution on dosage of repair agent for healing of cracks in materials: short capsule model vs. two-dimensional crack pattern. Science and Engineering of Composite Materials, 2011, 18, 13-19.	0.6	14
71	Impact of polydispersity of particle shape and size on percolation threshold of 3D particulate media composed of penetrable superellipsoids. Powder Technology, 2020, 360, 944-955.	2.1	14
72	Statistical analysis of the critical percolation of ITZ around polygonal aggregates in three-phase concrete materials. Physica A: Statistical Mechanics and Its Applications, 2021, 572, 125878.	1.2	14

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73	Insight into the diffusivity of particulate composites considering percolation of soft interphases around hard fillers: From spherical to polyhedral particles. Powder Technology, 2021, 392, 459-472.	2.1	14
74	Permeability of concrete considering the synergetic effect of crackâ€™s shape- and size-polydispersities on the percolation. Construction and Building Materials, 2022, 315, 125684.	3.2	14
75	Microstructural modelling of cement-based materials via random packing of three-dimensional ellipsoidal particles. Procedia Engineering, 2012, 27, 332-340.	1.2	13
76	Self-healing efficiency of unhydrated cement nuclei for dome-like crack mode in cementitious materials. Materials and Structures/Materiaux Et Constructions, 2013, 46, 1881-1892.	1.3	13
77	Efficient measurement of the percolation threshold for random systems of congruent overlapping ovoids. Powder Technology, 2020, 360, 598-607.	2.1	13
78	Theoretical prediction on thickness distribution of cement paste among neighboring aggregates in concrete. Computers and Concrete, 2011, 8, 163-176.	0.7	13
79	Impact of particle size ratio on the percolation thresholds of 2D bidisperse granular systems composed of overlapping superellipses. Physica A: Statistical Mechanics and Its Applications, 2020, 544, 123564.	1.2	12
80	Research on the Corrosion/Permeability/Frost Resistance of Concrete by Experimental and Microscopic Mechanisms Under Different Waterâ€“Binder Ratios. International Journal of Concrete Structures and Materials, 2020, 14, .	1.4	12
81	Diffusivity of cement paste via a continuum-based microstructure and hydration model: Influence of cement grain shape. Cement and Concrete Composites, 2021, 118, 103920.	4.6	12
82	Effects of the pore shape polydispersity on the percolation threshold and diffusivity of porous composites: Theoretical and numerical studies. Powder Technology, 2021, 386, 382-393.	2.1	12
83	Permeability of granular media considering the effect of grain composition on tortuosity. International Journal of Engineering Science, 2022, 174, 103658.	2.7	12
84	Degradation of VIP barrier envelopes exposed to alkaline solution at different temperatures. Energy and Buildings, 2015, 93, 208-216.	3.1	11
85	Prediction of compressive strength and optimization of mixture proportioning in ternary cementitious systems. Materials and Structures/Materiaux Et Constructions, 2003, 36, 396-401.	1.3	10
86	3D visualisation of pore structures in cement-based materials by LSCM. Advances in Cement Research, 2010, 22, 53-57.	0.7	10
87	Analytical solution on dosage of self-healing capsules in materials with two-dimensional multi-shaped crack patterns. Science and Engineering of Composite Materials, 2018, 25, 1229-1239.	0.6	10
88	The bias of the interface thickness and diffusivity of concrete comprising Platonic aggregates induced by areal analysis. Powder Technology, 2020, 376, 209-221.	2.1	10
89	Shape effect of cement particles on the ionic diffusivity of hardened cement pasteâ€”a three-dimensional numerical investigation. Construction and Building Materials, 2020, 250, 118736.	3.2	10
90	Spatial dispersion of aggregate in concrete a computer simulation study. Computers and Concrete, 2006, 3, 301-312.	0.7	9

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91	Continuum percolation of porous media via random packing of overlapping cube-like particles. Theoretical and Applied Mechanics Letters, 2018, 8, 299-303.	1.3	8
92	Areal analysis induced bias on interface thickness around ovoidal particles. Construction and Building Materials, 2020, 262, 120583.	3.2	8
93	Modeling self-healing efficiency on cracks due to unhydrated cement nuclei in cementitious materials: splitting crack mode. Science and Engineering of Composite Materials, 2012, 19, 1-7.	0.6	7
94	Determination of overlapping degree of interfacial layers around polydisperse ellipsoidal particles in particulate composites. Physica A: Statistical Mechanics and Its Applications, 2014, 399, 126-136.	1.2	7
95	Influence mechanisms under different immersion methods and different strengths of concrete in corrosive environments, and verification via longâ€term field test. Structural Concrete, 2020, 21, 1853-1864.	1.5	7
96	Degradation of pore structure and microstructures in hardened cement paste subjected to flexural loading and wet-dry cycles in sea water. Journal Wuhan University of Technology, Materials Science Edition, 2009, 24, 940-944.	0.4	6
97	Connection between pore-scale and macroscopic flow characteristics of recirculating wake behind a porous cylinder. Physics of Fluids, 2020, 32, 083606.	1.6	6
98	Effects of fiber curvature on the microstructure of the interfacial transition zone in fresh concrete. Frontiers of Architecture and Civil Engineering in China, 2007, 1, 99-106.	0.4	5
99	Modeling Study of the Valid Apparent Interface Thickness in Particulate Materials with Ellipsoidal Particles. Industrial & Engineering Chemistry Research, 2013, 52, 17171-17178.	1.8	4
100	Experimental Studies on the Effect of Properties and Micro-Structure on the Creep of Concrete-Filled Steel Tubes. Materials, 2019, 12, 1046.	1.3	4
101	Freezing behavior of unsaturated porous materials. Construction and Building Materials, 2021, 274, 122112.	3.2	4
102	Lattice modeling for the influence of geometrical patterns of 3D spacer fabric on tensile behavior of concrete canvas. Journal of Sandwich Structures and Materials, 2022, 24, 696-719.	2.0	4
103	Geometrical probability of a capsule hitting irregular crack networks: Application to capsule-based self-healing materials. Applied Mathematical Modelling, 2022, 101, 406-419.	2.2	4
104	Quantitative solution of size and dosage of capsules for self-healing of cracks in cementitious composites. Computers and Concrete, 2013, 11, 223-236.	0.7	4
105	Thermodynamic modeling of the influence of temperature on the hydrate phase assemblage in MOC. Construction and Building Materials, 2022, 335, 127531.	3.2	4
106	A review of correlative modeling for transport properties, microstructures, and compositions of granular materials in soft matter. Wuli Xuebao/Acta Physica Sinica, 2016, 65, 178101.	0.2	3
107	Numerical evaluation of overestimation of the interface thickness around ellipsoidal particle. Theoretical and Applied Mechanics Letters, 2013, 3, 054008.	1.3	2
108	Simulation and Characterization of the Quantitative Relation Between Fibers and Cracks in Fiber Reinforced Composite Materials. Advanced Science Letters, 2012, 16, 278-283.	0.2	1

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109	Modelling of the Drying Process in Pores and the Shrinkage of Cement Paste at High Relative Humidity. , 2015, , .		0
110	Analytical Model for the Probability Characteristics of a Crack Penetrating Capsules in Capsule-Based Self-Healing Cementitious Materials. Medziagotyra, 2017, 23, .	0.1	0
111	Misestimation of the ITZ Thickness around Non-Spherical Aggregates. Materials Science Forum, 0, 1036, 432-441.	0.3	0