Zhi'en Zhang

List of Publications by Year in descending order

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144 papers 8,066 citations

50276 46 h-index 84 g-index

154 all docs

154 docs citations

154 times ranked

7055 citing authors

#	Article	IF	CITATIONS
1	High-performance piezoelectric wind energy harvester with Y-shaped attachments. Energy Conversion and Management, 2019, 181, 645-652.	9.2	388
2	Recent advances in carbon dioxide utilization. Renewable and Sustainable Energy Reviews, 2020, 125, 109799.	16.4	369
3	A Review on Reverse Osmosis and Nanofiltration Membranes for Water Purification. Polymers, 2019, 11, 1252.	4.5	326
4	Biomimetic dynamic membrane for aquatic dye removal. Water Research, 2019, 151, 243-251.	11.3	295
5	A review on agro-industrial waste (AIW) derived adsorbents for water and wastewater treatment. Journal of Environmental Management, 2018, 227, 395-405.	7.8	292
6	Thermal management and temperature uniformity enhancement of electronic devices by micro heat sinks: A review. Energy, 2021, 216, 119223.	8.8	278
7	Progress in enhancement of CO2 absorption by nanofluids: A mini review of mechanisms and current status. Renewable Energy, 2018, 118, 527-535.	8.9	252
8	Immobilization of microbial cells for the biotreatment of wastewater: A review. Environmental Chemistry Letters, 2019, 17, 241-257.	16.2	222
9	Current status of CO2 chemical absorption research applied to CCS: Towards full deployment at industrial scale. Applied Energy, 2020, 260, 114313.	10.1	215
10	Efficiency investigation on energy harvesting from airflows in HVAC system based on galloping of isosceles triangle sectioned bluff bodies. Energy, 2019, 172, 1066-1078.	8.8	197
11	Evolution of the spatiotemporal pattern of PM2.5 concentrations in China – A case study from the Beijing-Tianjin-Hebei region. Atmospheric Environment, 2018, 183, 225-233.	4.1	188
12	A realistic and integrated model for evaluating oil sands development with Steam Assisted Gravity Drainage technology in Canada. Applied Energy, 2018, 213, 76-91.	10.1	169
13	Aerobic granular sludge (AGS) scouring to mitigate membrane fouling: Performance, hydrodynamic mechanism and contribution quantification model. Water Research, 2021, 188, 116518.	11.3	169
14	Application of Artificial Neural Networks for Catalysis: A Review. Catalysts, 2017, 7, 306.	3. 5	167
15	Effectiveness of amino acid salt solutions in capturing CO2: A review. Renewable and Sustainable Energy Reviews, 2018, 98, 179-188.	16.4	167
16	Advances in carbon capture, utilization and storage. Applied Energy, 2020, 278, 115627.	10.1	135
17	Hybrid systems: Combining membrane and absorption technologies leads to more efficient acid gases (CO 2 and H 2 S) removal from natural gas. Journal of CO2 Utilization, 2017, 18, 362-369.	6.8	125
18	A quantitative oil and gas reservoir evaluation system for development. Journal of Natural Gas Science and Engineering, 2017, 42, 31-39.	4.4	123

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19	Design, modeling and experiments of broadband tristable galloping piezoelectric energy harvester. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 592-605.	3.4	110
20	Prediction of solubility of N-alkanes in supercritical CO2 using RBF-ANN and MLP-ANN. Journal of CO2 Utilization, 2018, 25, 108-119.	6.8	108
21	High-efficiency nutrients reclamation from landfill leachate by microalgae Chlorella vulgaris in membrane photobioreactor for bio-lipid production. Bioresource Technology, 2018, 266, 374-381.	9.6	102
22	CO ₂ Capture Using Hollow Fiber Membranes: A Review of Membrane Wetting. Energy & Energy & Fuels, 2018, 32, 963-978.	5.1	101
23	Harnessing the power of machine learning for carbon capture, utilisation, and storage (CCUS) – a state-of-the-art review. Energy and Environmental Science, 2021, 14, 6122-6157.	30.8	98
24	The critical factors for permeability-formation factor relation in reservoir rocks: Pore-throat ratio, tortuosity and connectivity. Energy, 2019, 188, 116051.	8.8	92
25	Fundamental investigation of an environmentally-friendly surfactant agent for chemical enhanced oil recovery. Fuel, 2019, 238, 186-197.	6.4	89
26	Modeling of a CO2-piperazine-membrane absorption system. Chemical Engineering Research and Design, 2018, 131, 375-384.	5.6	88
27	Membrane fouling mechanism of biofilm-membrane bioreactor (BF-MBR): Pore blocking model and membrane cleaning. Bioresource Technology, 2018, 250, 398-405.	9.6	82
28	Remediation of acid mine drainage. Environmental Chemistry Letters, 2019, 17, 1529-1538.	16.2	79
29	A comprehensive investigation on performance of oil and gas development in Nigeria: Technical and non-technical analyses. Energy, 2018, 158, 666-680.	8.8	78
30	Comparisons of various absorbent effects on carbon dioxide capture in membrane gas absorption (MGA) process. Journal of Natural Gas Science and Engineering, 2016, 31, 589-595.	4.4	77
31	Biogas upgrading by cryogenic techniques. Environmental Chemistry Letters, 2019, 17, 1251-1261.	16.2	71
32	Effect of silica sand size and saturation on methane hydrate formation in the presence of SDS. Journal of Natural Gas Science and Engineering, 2018, 56, 266-280.	4.4	69
33	CFD investigation of CO2 capture by methyldiethanolamine and 2-(1-piperazinyl)-ethylamine in membranes: Part B. Effect of membrane properties. Journal of Natural Gas Science and Engineering, 2014, 19, 311-316.	4.4	65
34	Theoretical Study on CO ₂ Absorption from Biogas by Membrane Contactors: Effect of Operating Parameters. Industrial & Engineering Chemistry Research, 2014, 53, 14075-14083.	3.7	63
35	Hydrothermal carbonization of biomass and waste: A review. Environmental Chemistry Letters, 2022, 20, 211-221.	16.2	61
36	Effect of porous media and its distribution on methane hydrate formation in the presence of surfactant. Applied Energy, 2020, 261, 114373.	10.1	58

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37	Numerical investigation on combustion characteristics of methane/air in a micro-combustor with a regular triangular pyramidÂbluff body. International Journal of Hydrogen Energy, 2018, 43, 7581-7590.	7.1	56
38	Mining the intrinsic trends of CO2 solubility in blended solutions. Journal of CO2 Utilization, 2018, 26, 496-502.	6.8	55
39	Machine learning predictive framework for CO2 thermodynamic properties in solution. Journal of CO2 Utilization, 2018, 26, 152-159.	6.8	54
40	Status and perspective of CO2 absorption process. Energy, 2020, 205, 118057.	8.8	54
41	Biochar production with amelioration of microwave-assisted pyrolysis: Current scenario, drawbacks and perspectives. Bioresource Technology, 2022, 355, 127303.	9.6	50
42	Predictive Power of Machine Learning for Optimizing Solar Water Heater Performance: The Potential Application of High-Throughput Screening. International Journal of Photoenergy, 2017, 2017, 1-10.	2.5	49
43	Effect of Porous Media and Sodium Dodecyl Sulphate Complex System on Methane Hydrate Formation. Energy & Energy	5.1	48
44	Numerical comparison of H2/air catalytic combustion characteristic of micro–combustors with a conventional, slotted or controllable slotted bluff body. Energy, 2019, 189, 116242.	8.8	48
45	Carbon Mineralization by Reaction with Steel-Making Waste: A Review. Processes, 2019, 7, 115.	2.8	48
46	Dynamic Modeling of Biogas Upgrading in Hollow Fiber Membrane Contactors. Energy & E	5.1	47
47	Investigation of autothermal reforming of methane for hydrogen production in a spiral multi-cylinder micro-reactor used for mobile fuel cell. International Journal of Hydrogen Energy, 2015, 40, 1886-1893.	7.1	46
48	Thermodynamic analysis of KCS/ORC integrated power generation system with LNG cold energy exploitation and CO2 capture. Journal of Natural Gas Science and Engineering, 2017, 46, 188-198.	4.4	46
49	CO2 capture from coalbed methane using membranes: a review. Environmental Chemistry Letters, 2020, 18, 79-96.	16.2	46
50	Performance Analysis of a Novel Cascade Absorption Refrigeration for Low-Grade Waste Heat Recovery. ACS Sustainable Chemistry and Engineering, 2018, 6, 8350-8363.	6.7	45
51	Life cycle assessment of combustion-based electricity generation technologies integrated with carbon capture and storage: A review. Environmental Research, 2022, 207, 112219.	7.5	45
52	A review of carbon dioxide sequestration by mineral carbonation of industrial byproduct gypsum. Journal of Cleaner Production, 2021, 302, 126930.	9.3	43
53	Energy harvesting from flow-induced vibration: a lumped parameter model. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2018, 40, 2903-2913.	2.3	42
54	Functional Group Effects on the HOMO–LUMO Gap of g-C3N4. Nanomaterials, 2018, 8, 589.	4.1	42

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55	Prediction of CO2 absorption by physicalÂsolvents using a chemoinformatics-based machine learning model. Environmental Chemistry Letters, 2019, 17, 1397-1404.	16.2	42
56	Heat transfer enhancement and exergy efficiency improvement of a micro combustor with internal spiral fins for thermophotovoltaic systems. Applied Thermal Engineering, 2021, 189, 116723.	6.0	42
57	A robust predictive tool for estimating CO 2 solubility in potassium based amino acid salt solutions. Chinese Journal of Chemical Engineering, 2018, 26, 740-746.	3.5	40
58	CO2 capture using membrane contactors: a systematic literature review. Frontiers of Chemical Science and Engineering, 2021, 15, 720-754.	4.4	38
59	Efficient study of a coarse structure number on the bluff body during the harvesting of wind energy. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2018, 40, 1788-1797.	2.3	36
60	Data-Mining for Processes in Chemistry, Materials, and Engineering. Processes, 2019, 7, 151.	2.8	36
61	Stepping towards a low-carbon economy. Formic acid from biogas as case of study. Applied Energy, 2020, 268, 115033.	10.1	35
62	Gas hydrate formation in the presence of mixed surfactants and alumina nanoparticles. Journal of Natural Gas Science and Engineering, 2021, 94, 104049.	4.4	35
63	Threshold flux and limiting flux for micellar enhanced ultrafiltration as affected by feed water: experimental and modeling studies. Journal of Cleaner Production, 2016, 112, 1241-1251.	9.3	30
64	Carbon Dioxide Absorption from Biogas by Amino Acid Salt Promoted Potassium Carbonate Solutions in a Hollow Fiber Membrane Contactor: A Numerical Study. Energy & Ene	5.1	30
65	CO2 sequestration: high conversion of gypsum into CaCO3 by ultrasonic carbonation. Environmental Chemistry Letters, 2020, 18, 1369-1377.	16.2	30
66	Investigation of CO2 absorption in methyldiethanolamine and 2-(1-piperazinyl)-ethylamine using hollow fiber membrane contactors: Part C. Effect of operating variables. Journal of Natural Gas Science and Engineering, 2014, 20, 58-66.	4.4	29
67	Viscous flow and diffusion of liquids in microporous glasses. Physical Review B, 1992, 46, 10701-10705.	3.2	28
68	Experimental studies on carbon dioxide absorption using potassium carbonate solutions with amino acid salts. Separation and Purification Technology, 2019, 219, 47-54.	7.9	28
69	Pore Network Modeling of Shale Gas Reservoirs: Gas Desorption and Slip Flow Effects. Transport in Porous Media, 2019, 126, 633-653.	2.6	28
70	Research Progress in Gas Separation Using Hollow Fiber Membrane Contactors. Membranes, 2020, 10, 380.	3.0	28
71	Exergoeconomic analysis and optimization of a combined cooling, heating and power system based on organic Rankine and Kalina cycles using liquified natural gas cold energy. Energy Conversion and Management, 2021, 238, 114148.	9.2	28
72	CO2-selective membranes containing amino acid salts for CO2/N2 separation. Journal of Membrane Science, 2021, 638, 119696.	8.2	28

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73	Simultaneous removal of CO2 and H2S from coalbed methane in a membrane contactor. Journal of Cleaner Production, 2020, 273, 123107.	9.3	26
74	Progress in use of surfactant in nearly static conditions in natural gas hydrate formation. Frontiers in Energy, 2020, 14, 463-481.	2.3	26
75	Numerical investigation of a novel micro combustor with a central and bilateral slotted blunt body. International Journal of Hydrogen Energy, 2021, 46, 23564-23579.	7.1	25
76	A new chemical structure-based model to estimate solid compound solubility in supercritical CO2. Journal of CO2 Utilization, 2018, 26, 262-270.	6.8	24
77	Estimation of Sandstone Permeability with SEM Images Based on Fractal Theory. Transport in Porous Media, 2019, 126, 701-712.	2.6	24
78	Profitability analysis of a novel configuration to synergize biogas upgrading and Power-to-Gas. Energy Conversion and Management, 2020, 224, 113369.	9.2	24
79	Understanding the effect of Ca and Mg ions from wastes in the solvent regeneration stage of a biogas upgrading unit. Science of the Total Environment, 2019, 691, 93-100.	8.0	23
80	Theoretical and Experimental Insights into the Mechanism for Gas Separation through Nanochannels in 2D Laminar MXene Membranes. Processes, 2019, 7, 751.	2.8	23
81	Parametric study of inserting internal spiral fins on the micro combustor performance for thermophotovoltaic systems. Renewable and Sustainable Energy Reviews, 2022, 165, 112595.	16.4	23
82	Decarburization characteristics of coalbed methane by membrane separation technology. Fuel, 2019, 242, 470-478.	6.4	22
83	Comparative investigation of combustion and thermal characteristics of a conventional micro combustor and micro combustor with internal straight/spiral fins for thermophotovoltaic system. International Journal of Hydrogen Energy, 2021, 46, 22165-22179.	7.1	22
84	Influence of the Membrane Module Geometry on SO ₂ Removal: A Numerical Study. Industrial & Study. 11619-11627.	3.7	21
85	Thermodynamic and Economic Analysis Between Organic Rankine Cycle and Kalina Cycle for Waste Heat Recovery From Steam-Assisted Gravity Drainage Process in Oilfield. Journal of Energy Resources Technology, Transactions of the ASME, 2018, 140, .	2.3	21
86	Carbon Capture. , 2018, , 997-1016.		21
87	Potential of tri-reforming process and membrane technology for improving ammonia production and CO2 reduction. Science of the Total Environment, 2019, 664, 567-575.	8.0	20
88	Unprofitability of small biogas plants without subsidies in the Brandenburg region. Environmental Chemistry Letters, 2021, 19, 1823-1829.	16.2	20
89	Multi-objective optimization and multi-factors analysis of the thermal/hydraulic performance of the bionic Y-shaped fractal heat sink. Applied Thermal Engineering, 2021, 195, 117157.	6.0	20
90	Non-Monotonic Trends of Hydrogen Adsorption on Single Atom Doped g-C3N4. Catalysts, 2019, 9, 84.	3.5	19

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91	Nanostructured Membrane Materials for CO2 Capture: A Critical Review. Journal of Nanoscience and Nanotechnology, 2019, 19, 3173-3179.	0.9	19
92	AN INTRODUCTION TO FRACTAL-BASED APPROACHES IN UNCONVENTIONAL RESERVOIRS — PART I. Fractals, 2018, 26, 1802001.	3.7	18
93	2.29 Desulfurization Materials., 2018,, 944-979.		18
94	Multiobjective optimization for exergoeconomic analysis of an integrated cogeneration system. International Journal of Energy Research, 2019, 43, 1868-1881.	4.5	18
95	Novel process for carbon capture and utilization and saline wastes valorization. Journal of Natural Gas Science and Engineering, 2020, 73, 103071.	4.4	18
96	Methane combustion reactivity during the metalâ†'metallic oxide transformation of Pd-Pt catalysts: Effect of oxygen pressure. Applied Surface Science, 2018, 435, 776-785.	6.1	17
97	The Influence of Sorption Pressure on Gas Diffusion in Coal Particles: An Experimental Study. Processes, 2019, 7, 219.	2.8	17
98	Sulfur dioxide solubility prediction in ionic liquids by a group contribution — LSSVM model. Chemical Engineering Research and Design, 2019, 142, 44-52.	5.6	17
99	Enhancing membrane performance for CO2 capture from flue gas with ultrahigh MW polyvinylamine. Journal of Membrane Science, 2021, 628, 119215.	8.2	16
100	Predicting energy output of a stochastic nonlinear dielectric elastomer generator. Energy Conversion and Management, 2019, 196, 1445-1452.	9.2	15
101	Estimating solubility of supercritical H2S in ionic liquids through a hybrid LSSVM chemical structure model. Chinese Journal of Chemical Engineering, 2019, 27, 620-627.	3.5	15
102	A data-driven approach to anomaly detection and vulnerability dynamic analysis for large-scale integrated energy systems. Energy Conversion and Management, 2021, 234, 113926.	9.2	15
103	Comparing Economics, Environmental Pollution and Health Efficiency in China. International Journal of Environmental Research and Public Health, 2019, 16, 4827.	2.6	14
104	A NOVEL FRACTAL MODEL FOR ESTIMATING PERMEABILITY IN LOW-PERMEABLE SANDSTONE RESERVOIRS. Fractals, 2020, 28, 2040005.	3.7	14
105	Multi-objective optimizations on thermal and hydraulic performance of symmetric and asymmetric bionic Y-shaped fractal networks by genetic algorithm coupled with CFD simulation. International Communications in Heat and Mass Transfer, 2021, 124, 105261.	5.6	14
106	Sustainable development in period of COVID-19 pandemic. Journal of Cleaner Production, 2021, 328, 129577.	9.3	14
107	ANFIS based evolutionary concept for estimating nucleate pool boiling heat transfer of refrigerant-ester oil containing nanoparticles. International Journal of Refrigeration, 2018, 96, 38-49.	3.4	13
108	Optimization of RDM-UF for alfalfa wastewater treatment using RSM. Environmental Science and Pollution Research, 2018, 25, 1439-1447.	5.3	12

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109	Design, Modeling, and Experiments of the Vortex-Induced Vibration Piezoelectric Energy Harvester with Bionic Attachments. Complexity, 2019, 2019, 1-13.	1.6	12
110	Insights into the Fouling Propensities of Natural Derived Alginate Blocks during the Microfiltration Process. Processes, 2019, 7, 858.	2.8	12
111	Glycine-induced synthesis of vaterite by direct aqueous mineral carbonation of desulfurization gypsum. Environmental Chemistry Letters, 2022, 20, 2261-2269.	16.2	12
112	Control of postharvest grey mould decay of nectarine by tea polyphenol combined with tea saponin. Letters in Applied Microbiology, 2013, 57, 502-509.	2.2	11
113	n -Decane hydro-conversion over bi- and tri-metallic Al-HMS catalyst in a mini-reactor. Chinese Journal of Chemical Engineering, 2018, 26, 1330-1339.	3 . 5	11
114	Recent Advances in Flow and Transport Properties of Unconventional Reservoirs. Energies, 2019, 12, 1865.	3.1	11
115	Numerical Simulation and Analysis of CO2Removal in a Polypropylene Hollow Fiber Membrane Contactor. International Journal of Chemical Engineering, 2014, 2014, 1-7.	2.4	10
116	Natural gas hydrate formation dynamics in a diesel water-in-oil emulsion system. Petroleum Science and Technology, 2018, 36, 1649-1656.	1.5	10
117	Modeling of CO2 Separation from Flue Gas by Methyldiethanolamine and 2-(1-Piperazinyl)-Ethylamine in Membrane Contactors: Effect of Gas and Liquid Parameters. Journal of Energy Engineering - ASCE, 2015, 141, .	1.9	9
118	A BRIEF REVIEW OF ENHANCED CO2 ABSORPTION BY NANOPARTICLES. International Journal of Energy for A Clean Environment, 2018, 19, 201-215.	1.1	8
119	Numerical investigation of the effects of polypropylene hollow fibre membrane structure on the performance of CO2 removal from flue gas. RSC Advances, 2015, 5, 424-433.	3.6	7
120	Broadening Band of Wind Speed for Aeroelastic Energy Scavenging of a Cylinder through Buffeting in the Wakes of a Squared Prism. Shock and Vibration, 2018, 2018, 1-14.	0.6	7
121	Remediation of lime-free roasting chromite ore processing residue (COPR) by water leaching and pyrolysis process. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2018, 40, 1417-1425.	2.3	7
122	Emerging Advances in Petrophysics: Porous Media Characterization and Modeling of Multiphase Flow. Energies, 2019, 12, 282.	3.1	7
123	Energy Harvester Based on the Synchronization Phenomenon of a Circular Cylinder. Mathematical Problems in Engineering, 2014, 2014, 1-9.	1.1	6
124	Numerical Investigation on Heat-Transfer and Hydromechanical Performance Inside Contaminant-Insensitive Sublimators Under a Vacuum Environment for Spacecraft Applications. Energies, 2019, 12, 4562.	3.1	6
125	Kinetic Analysis of Algae Gasification by Distributed Activation Energy Model. Processes, 2020, 8, 927.	2.8	6
126	Membranes for Gas Separation. Membranes, 2021, 11, 755.	3.0	6

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127	Mechanical Properties of High-Nb X80 Steel Weld Pipes for the Second West-to-East Gas Transmission Pipeline Project. Advances in Materials Science and Engineering, 2017, 2017, 1-13.	1.8	5
128	Application of novel thermochemical methods for enhanced synthesis of alternative fuels in the period of energy transition. Fuel, 2021, 306, 121958.	6.4	5
129	Zeolites Nanocomposite Membrane Applications in CO2 Capture., 2018,, 916-921.		4
130	Virtual special issue: Sour gas reservoirs and sulfur-removal technologies. Journal of Natural Gas Science and Engineering, 2015, 26, 1506-1507.	4.4	3
131	Advances in Modelling of Heat and Mass Transfer in Porous Materials. Advances in Materials Science and Engineering, 2019, 2019, 1-2.	1.8	3
132	Effect of flow and module configuration on SO2 absorption by using membrane contactors. Global Nest Journal, 2018, 19, 716-725.	0.1	3
133	Investigation on the effect of water vapor on the catalytic combustion of methane on platinum. Petroleum Science and Technology, 2018, 36, 494-499.	1.5	2
134	Gas Capture Processes. Processes, 2020, 8, 70.	2.8	2
135	Analysis of Deformation and Equivalent Stress during Biomass Material Compression Molding. IOP Conference Series: Materials Science and Engineering, 2018, 307, 012032.	0.6	1
136	PREFACE: ENERGY ISSUES IN CARBON CAPTURE. International Journal of Energy for A Clean Environment, 2018, 19, v-vii.	1.1	1
137	Editorial to the Special Issue: Modeling and Characterization of Low Permeability (Tight) and Nanoporous Reservoirs. Transport in Porous Media, 2019, 126, 523-525.	2.6	1
138	Gas, Water and Solid Waste Treatment Technology. Processes, 2021, 9, 1397.	2.8	1
139	Analysis of CO2 Capture From Power-Plant Flue Gas Using the Membrane Gas Absorption (MGA) Method. , 2015, , .		0
140	Publication trends in natural gas research (2013–2014). Journal of Natural Gas Science and Engineering, 2015, 27, 1265-1269.	4.4	0
141	Analysis of Spontaneous Imbibition in Carbon Nanotube. , 2018, , 793-798.		0
142	Modeling of capillary-driven flow in nanoporous media. , 2018, , 139-151.		0
143	CO2 Capture via Nanofluids., 2019,, 479-489.		0
144	Use of half-cylinder obstacle for enhancing aeroelastic energy harvesting. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-15.	2.3	0