

Tianbiao He

List of Publications by Year in descending order

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81
papers

7,645
citations

70961

41
h-index

62479

80
g-index

81
all docs

81
docs citations

81
times ranked

2896
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of natural gas hydrates as an energy resource: Prospects and challenges. <i>Applied Energy</i> , 2016, 162, 1633-1652.	5.1	1,328
2	A review of the hydrate based gas separation (HBGS) process for carbon dioxide pre-combustion capture. <i>Energy</i> , 2015, 85, 261-279.	4.5	481
3	A review of solidified natural gas (SNG) technology for gas storage via clathrate hydrates. <i>Applied Energy</i> , 2018, 216, 262-285.	5.1	420
4	Seawater desalination by gas hydrate process and removal characteristics of dissolved ions (Na ⁺ , K ⁺) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	4.9	299
5	Enhanced rate of gas hydrate formation in a fixed bed column filled with sand compared to a stirred vessel. <i>Chemical Engineering Science</i> , 2012, 68, 617-623.	1.9	292
6	A Review of Clathrate Hydrate Based Desalination To Strengthen Energy-Water Nexus. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 8093-8107.	3.2	275
7	LNG cold energy utilization: Prospects and challenges. <i>Energy</i> , 2019, 170, 557-568.	4.5	236
8	A Review of Clathrate Hydrate Nucleation. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 11176-11203.	3.2	224
9	Pre-combustion capture of carbon dioxide in a fixed bed reactor using the clathrate hydrate process. <i>Energy</i> , 2013, 50, 364-373.	4.5	222
10	Gas Hydrate Formation in a Variable Volume Bed of Silica Sand Particles. <i>Energy & Fuels</i> , 2009, 23, 5496-5507.	2.5	218
11	A review of gas hydrate growth kinetic models. <i>Chemical Engineering Journal</i> , 2018, 342, 9-29.	6.6	211
12	An innovative approach to enhance methane hydrate formation kinetics with leucine for energy storage application. <i>Applied Energy</i> , 2017, 188, 190-199.	5.1	180
13	Morphology of Methane Hydrate Formation in Porous Media. <i>Energy & Fuels</i> , 2013, 27, 3364-3372.	2.5	145
14	Review on the design and optimization of natural gas liquefaction processes for onshore and offshore applications. <i>Chemical Engineering Research and Design</i> , 2018, 132, 89-114.	2.7	138
15	Formation and Dissociation Kinetics of Methane Hydrates in Seawater and Silica Sand. <i>Energy & Fuels</i> , 2014, 28, 2708-2716.	2.5	132
16	Unusual behavior of propane as a co-guest during hydrate formation in silica sand: Potential application to seawater desalination and carbon dioxide capture. <i>Chemical Engineering Science</i> , 2014, 117, 342-351.	1.9	131
17	A novel conceptual design of hydrate based desalination (HyDesal) process by utilizing LNG cold energy. <i>Applied Energy</i> , 2018, 222, 13-24.	5.1	131
18	Carbon dioxide hydrate kinetics in porous media with and without salts. <i>Applied Energy</i> , 2016, 162, 1131-1140.	5.1	113

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19	Medium pressure hydrate based gas separation (HBGS) process for pre-combustion capture of carbon dioxide employing a novel fixed bed reactor. <i>International Journal of Greenhouse Gas Control</i> , 2013, 17, 206-214.	2.3	107
20	Effect of NaCl on methane hydrate formation and dissociation in porous media. <i>Journal of Natural Gas Science and Engineering</i> , 2015, 27, 178-189.	2.1	104
21	Investigation on the roles of activated carbon particle sizes on methane hydrate formation and dissociation. <i>Chemical Engineering Science</i> , 2015, 126, 383-389.	1.9	103
22	Amino Acids as Kinetic Promoters for Gas Hydrate Applications: A Mini Review. <i>Energy & Fuels</i> , 2021, 35, 7553-7571.	2.5	97
23	Economic evaluation of energy efficient hydrate based desalination utilizing cold energy from liquefied natural gas (LNG). <i>Desalination</i> , 2019, 463, 69-80.	4.0	86
24	Hydrates for cold energy storage and transport: A review. <i>Advances in Applied Energy</i> , 2021, 2, 100022.	6.6	83
25	Conventional and microwave-assisted pyrolysis of gumwood: A comparison study using thermodynamic evaluation and hydrogen production. <i>Fuel Processing Technology</i> , 2019, 184, 1-11.	3.7	82
26	Enhanced carbon dioxide hydrate formation kinetics in a fixed bed reactor filled with metallic packing. <i>Chemical Engineering Science</i> , 2015, 122, 78-85.	1.9	80
27	A comprehensive optimization and comparison of modified single mixed refrigerant and parallel nitrogen expansion liquefaction process for small-scale mobile LNG plant. <i>Energy</i> , 2019, 167, 1-12.	4.5	76
28	Cascade utilization of LNG cold energy by integrating cryogenic energy storage, organic Rankine cycle and direct cooling. <i>Applied Energy</i> , 2020, 277, 115570.	5.1	75
29	A novel conceptual design of parallel nitrogen expansion liquefaction process for small-scale LNG (liquefied natural gas) plant in skid-mount packages. <i>Energy</i> , 2014, 75, 349-359.	4.5	69
30	Design and Optimization of a Novel Mixed Refrigerant Cycle Integrated with NGL Recovery Process for Small-Scale LNG Plant. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 5545-5553.	1.8	68
31	Alleviation of Foam Formation in a Surfactant Driven Gas Hydrate System: Insights via a Detailed Morphological Study. <i>ACS Applied Energy Materials</i> , 2018, 1, 6899-6911.	2.5	64
32	Effect of KCl and MgCl ₂ on the kinetics of methane hydrate formation and dissociation in sandy sediments. <i>Energy</i> , 2017, 137, 518-529.	4.5	61
33	Performance improvement of nitrogen expansion liquefaction process for small-scale LNG plant. <i>Cryogenics</i> , 2014, 61, 111-119.	0.9	58
34	Effects of temperature and pressure on the methane hydrate formation with the presence of tetrahydrofuran (THF) as a promoter in an unstirred tank reactor. <i>Fuel</i> , 2019, 255, 115705.	3.4	58
35	Kinetic Evaluation of Cyclopentane as a Promoter for CO ₂ Capture via a Clathrate Process Employing Different Contact Modes. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 11913-11921.	3.2	55
36	Optimal synthesis of expansion liquefaction cycle for distributed-scale LNG (liquefied natural gas) plant. <i>Energy</i> , 2015, 88, 268-280.	4.5	52

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37	A novel inlet air cooling system based on liquefied natural gas cold energy utilization for improving power plant performance. <i>Energy Conversion and Management</i> , 2019, 187, 41-52.	4.4	48
38	Assessment of working fluids, thermal resources and cooling utilities for Organic Rankine Cycles: State-of-the-art comparison, challenges, commercial status, and future prospects. <i>Energy Conversion and Management</i> , 2022, 252, 115055.	4.4	48
39	Hydrate-based desalination (HyDesal) process employing a novel prototype design. <i>Chemical Engineering Science</i> , 2020, 218, 115563.	1.9	47
40	Effects of cooling and heating sources properties and working fluid selection on cryogenic organic Rankine cycle for LNG cold energy utilization. <i>Energy Conversion and Management</i> , 2021, 247, 114706.	4.4	45
41	Dual-effect single-mixed refrigeration cycle: An innovative alternative process for energy-efficient and cost-effective natural gas liquefaction. <i>Applied Energy</i> , 2020, 268, 115022.	5.1	44
42	Stability analysis of methane hydrates for gas storage application. <i>Chemical Engineering Journal</i> , 2021, 415, 128927.	6.6	42
43	Morphology Study of Mixed Methane-Tetrahydrofuran Hydrates with and without the Presence of Salt. <i>Energy & Fuels</i> , 2019, 33, 4865-4876.	2.5	41
44	Design and optimization of natural gas liquefaction process by utilizing gas pipeline pressure energy. <i>Applied Thermal Engineering</i> , 2013, 57, 1-6.	3.0	39
45	CO ₂ capture using the clathrate hydrate process employing cellulose foam as a porous media. <i>Canadian Journal of Chemistry</i> , 2015, 93, 808-814.	0.6	39
46	A novel process for small-scale pipeline natural gas liquefaction. <i>Applied Energy</i> , 2014, 115, 17-24.	5.1	38
47	Impact of mixed refrigerant selection on energy and exergy performance of natural gas liquefaction processes. <i>Energy</i> , 2020, 199, 117378.	4.5	38
48	PMV-based dynamic optimization of energy consumption for a residential task/ambient air conditioning system in different climate zones. <i>Renewable Energy</i> , 2019, 142, 41-54.	4.3	37
49	Mechanism of methane hydrate formation in the presence of hollow silica. <i>Korean Journal of Chemical Engineering</i> , 2016, 33, 2050-2062.	1.2	32
50	Dynamic simulation of mixed refrigerant process for small-scale LNG plant in skid mount packages. <i>Energy</i> , 2016, 97, 350-358.	4.5	32
51	A critical review on measures to suppress flow boiling instabilities in microchannels. <i>Heat and Mass Transfer</i> , 2021, 57, 889-910.	1.2	31
52	Impact of fixed bed reactor orientation, liquid saturation, bed volume and temperature on the clathrate hydrate process for pre-combustion carbon capture. <i>Journal of Natural Gas Science and Engineering</i> , 2016, 35, 1499-1510.	2.1	29
53	Seawater based mixed methane-THF hydrate formation at ambient temperature conditions. <i>Applied Energy</i> , 2020, 271, 115158.	5.1	29
54	Utilization of CO ₂ in renewable DME fuel production: A life cycle analysis (LCA)-based case study in China. <i>Fuel</i> , 2019, 254, 115627.	3.4	27

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55	Optimization and analysis of a novel hydrogen liquefaction process for circulating hydrogen refrigeration. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 348-364.	3.8	26
56	Techno-economic Evaluation of Cyclopentane Hydrate-Based Desalination with Liquefied Natural Gas Cold Energy Utilization. <i>Energy Technology</i> , 2020, 8, 1900212.	1.8	24
57	Exergoeconomic analysis and optimization of a Gas Turbine-Modular Helium Reactor with new organic Rankine cycle for efficient design and operation. <i>Energy Conversion and Management</i> , 2020, 204, 112311.	4.4	24
58	Teaching-learning self-study approach for optimal retrofitting of dual mixed refrigerant LNG process: Energy and exergy perspective. <i>Applied Energy</i> , 2021, 298, 117187.	5.1	23
59	An electrical resistivity-based method for measuring semi-clathrate hydrate formation kinetics: Application for cold storage and transport. <i>Applied Energy</i> , 2022, 308, 118397.	5.1	23
60	Morphology Study on the Effect of Thermodynamic Inhibitors during Methane Hydrate Formation in the Presence of NaCl. <i>Crystal Growth and Design</i> , 2018, 18, 6984-6994.	1.4	22
61	Numerical study on heat transfer of oily wastewater spray falling film over a horizontal tube in a sewage source heat pump. <i>International Journal of Heat and Mass Transfer</i> , 2019, 142, 118423.	2.5	22
62	Solidified Hydrogen Storage (Solid-HyStore) via Clathrate Hydrates. <i>Chemical Engineering Journal</i> , 2022, 431, 133702.	6.6	21
63	Improved Kinetics and Water Recovery with Propane as Co-Guest Gas on the Hydrate-Based Desalination (HyDesal) Process. <i>ChemEngineering</i> , 2019, 3, 31.	1.0	19
64	Unsteady heat transfer properties of spray falling over a horizontal tube in an oily sewage source heat pump. <i>Applied Thermal Engineering</i> , 2020, 179, 115675.	3.0	19
65	Single-Solution-Based Vortex Search Strategy for Optimal Design of Offshore and Onshore Natural Gas Liquefaction Processes. <i>Energies</i> , 2020, 13, 1732.	1.6	19
66	System perspective on cleaner technologies for renewable methane production and utilisation towards carbon neutrality: Principles, techno-economics, and carbon footprints. <i>Fuel</i> , 2022, 327, 125130.	3.4	19
67	Organic Rankine cycle integrated with hydrate-based desalination for a sustainable energy-water nexus system. <i>Applied Energy</i> , 2021, 291, 116839.	5.1	18
68	Boiling heat transfer mechanism of environmental-friendly refrigerants: A review. <i>International Journal of Refrigeration</i> , 2022, 133, 214-225.	1.8	17
69	Key factors influencing the kinetics of tetra-n-butylammonium bromide hydrate formation as a cold storage and transport material. <i>Chemical Engineering Journal</i> , 2022, 446, 136843.	6.6	14
70	Shuffled Complex Evolution-Based Performance Enhancement and Analysis of Cascade Liquefaction Process for Large-Scale LNG Production. <i>Energies</i> , 2020, 13, 2511.	1.6	13
71	Kinetic promotion of mixed methane-THF hydrate by additives: Opportune to energy storage. <i>Energy Procedia</i> , 2019, 158, 5287-5292.	1.8	12
72	A robust and highly efficient phase boundary method for determining the thermodynamic equilibrium conditions of bulk gas hydrate systems. <i>Fluid Phase Equilibria</i> , 2021, 540, 113034.	1.4	12

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73	Experimental study on CO ₂ frosting and clogging in a brazed plate heat exchanger for natural gas liquefaction process. <i>Cryogenics</i> , 2018, 91, 128-135.	0.9	10
74	Progress and prospect of hydrate-based desalination technology. <i>Frontiers in Energy</i> , 2022, 16, 445-459.	1.2	10
75	Neural network-inspired performance enhancement of synthetic natural gas liquefaction plant with different minimum approach temperatures. <i>Fuel</i> , 2022, 308, 121858.	3.4	9
76	Black Hole-Inspired Optimal Design of Biomethane Liquefaction Process for Small-Scale Applications. <i>Frontiers in Energy Research</i> , 2021, 9, .	1.2	8
77	Influence of transient heat flux on boiling flow pattern in a straight microchannel applied in concentrator photovoltaic systems. <i>International Journal of Heat and Mass Transfer</i> , 2022, 190, 122792.	2.5	7
78	Adsorption and Desorption Experimental Study of Carbon Dioxide/Methane Mixture Gas on 13X-Type Molecular Sieves. <i>Journal of Chemical Engineering of Japan</i> , 2013, 46, 811-820.	0.3	6
79	Significance of Low Stirring Modes on the Kinetics of Methane Hydrate Formation. <i>Energy & Fuels</i> , 2022, 36, 7676-7686.	2.5	5
80	An experimental study on effects of oily content on flow pattern transition over horizontal tubes in a sewage source heat pump system. <i>International Journal of Thermal Sciences</i> , 2022, 181, 107779.	2.6	3
81	Effect of Cyclopentane and Graphite on the Kinetics of CO ₂ /C ₃ H ₈ Formation for Hydrate-Based Desalination. <i>Lecture Notes in Civil Engineering</i> , 2022, , 400-408.	0.3	0