

Lunbo Duan

List of Publications by Year in descending order

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110
papers

4,213
citations

87843

38
h-index

133188

59
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114
all docs

114
docs citations

114
times ranked

2653
citing authors

#	ARTICLE	IF	CITATIONS
1	Capturing CO ₂ in flue gas from fossil fuel-fired power plants using dry regenerable alkali metal-based sorbent. <i>Progress in Energy and Combustion Science</i> , 2013, 39, 515-534.	15.8	179
2	Investigation on Coal Pyrolysis in CO ₂ Atmosphere. <i>Energy & Fuels</i> , 2009, 23, 3826-3830.	2.5	139
3	Coal combustion characteristics on an oxy-fuel circulating fluidized bed combustor with warm flue gas recycle. <i>Fuel</i> , 2014, 127, 47-51.	3.4	123
4	Modified CaO-based sorbent looping cycle for CO ₂ mitigation. <i>Fuel</i> , 2009, 88, 697-704.	3.4	120
5	NO and N ₂ O precursors (NH ₃ and HCN) from biomass pyrolysis: Co-pyrolysis of amino acids and cellulose, hemicellulose and lignin. <i>Proceedings of the Combustion Institute</i> , 2011, 33, 1715-1722.	2.4	120
6	Integrating phytoremediation with biomass valorisation and critical element recovery: A UK contaminated land perspective. <i>Biomass and Bioenergy</i> , 2015, 83, 328-339.	2.9	118
7	Review on the Development of Sorbents for Calcium Looping. <i>Energy & Fuels</i> , 2020, 34, 7806-7836.	2.5	117
8	Accurate Control of Cage-Like CaO Hollow Microspheres for Enhanced CO ₂ Capture in Calcium Looping via a Template-Assisted Synthesis Approach. <i>Environmental Science & Technology</i> , 2019, 53, 2249-2259.	4.6	109
9	Cyclic calcination/carbonation looping of dolomite modified with acetic acid for CO ₂ capture. <i>Fuel Processing Technology</i> , 2008, 89, 1461-1469.	3.7	99
10	NO emission during co-firing coal and biomass in an oxy-fuel circulating fluidized bed combustor. <i>Fuel</i> , 2015, 150, 8-13.	3.4	90
11	Improvement of H ₂ -rich gas production with tar abatement from pine wood conversion over bi-functional Ca ₂ Fe ₂ O ₅ catalyst: Investigation of inner-looping redox reaction and promoting mechanisms. <i>Applied Energy</i> , 2018, 212, 931-943.	5.1	89
12	Observation of simultaneously low CO, NO _x and SO ₂ emission during oxy-coal combustion in a pressurized fluidized bed. <i>Fuel</i> , 2019, 242, 374-381.	3.4	87
13	CO ₂ capture performance of calcium-based synthetic sorbent with hollow core-shell structure under calcium looping conditions. <i>Applied Energy</i> , 2018, 225, 402-412.	5.1	84
14	Effect of rice husk ash addition on CO ₂ capture behavior of calcium-based sorbent during calcium looping cycle. <i>Fuel Processing Technology</i> , 2009, 90, 825-834.	3.7	83
15	Cyclic CO ₂ capture behavior of KMnO ₄ -doped CaO-based sorbent. <i>Fuel</i> , 2010, 89, 642-649.	3.4	83
16	O ₂ /CO ₂ coal combustion characteristics in a 50 kWth circulating fluidized bed. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 770-776.	2.3	79
17	Effects of operation parameters on NO emission in an oxy-fired CFB combustor. <i>Fuel Processing Technology</i> , 2011, 92, 379-384.	3.7	75
18	Pressurized oxy-fuel combustion characteristics of single coal particle in a visualized fluidized bed combustor. <i>Combustion and Flame</i> , 2020, 211, 218-228.	2.8	69

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19	From waste to high value utilization of spent bleaching clay in synthesizing high-performance calcium-based sorbent for CO ₂ capture. <i>Applied Energy</i> , 2018, 210, 117-126.	5.1	67
20	Nitrogen and sulfur conversion during pressurized pyrolysis under CO ₂ atmosphere in fluidized bed. <i>Fuel</i> , 2017, 189, 98-106.	3.4	66
21	Self-activated, nanostructured composite for improved CaL-CLC technology. <i>Chemical Engineering Journal</i> , 2018, 351, 1038-1046.	6.6	63
22	Microemulsion-derived, nanostructured CaO/CuO composites with controllable particle grain size to enhance cyclic CO ₂ capture performance for combined Ca/Cu looping process. <i>Chemical Engineering Journal</i> , 2020, 393, 124716.	6.6	60
23	CaO/Ca(OH) ₂ thermochemical heat storage of carbide slag from calcium looping cycles for CO ₂ capture. <i>Energy Conversion and Management</i> , 2018, 174, 8-19.	4.4	57
24	Chemical looping oxidative steam reforming of methanol: A new pathway for auto-thermal conversion. <i>Applied Catalysis B: Environmental</i> , 2020, 269, 118758.	10.8	57
25	Optical Sectioning Tomographic Reconstruction of Three-Dimensional Flame Temperature Distribution Using Single Light Field Camera. <i>IEEE Sensors Journal</i> , 2018, 18, 528-539.	2.4	56
26	A facile one-pot synthesis of CaO/CuO hollow microspheres featuring highly porous shells for enhanced CO ₂ capture in a combined Ca-Cu looping process via a template-free synthesis approach. <i>Journal of Materials Chemistry A</i> , 2019, 7, 21096-21105.	5.2	56
27	CFD modeling of oxy-coal combustion in circulating fluidized bed. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 1489-1497.	2.3	51
28	CO ₂ capture performance of CaO modified with by-product of biodiesel at calcium looping conditions. <i>Chemical Engineering Journal</i> , 2017, 326, 378-388.	6.6	51
29	CO ₂ capture efficiency and energy requirement analysis of power plant using modified calcium-based sorbent looping cycle. <i>Energy</i> , 2011, 36, 1590-1598.	4.5	49
30	Investigation on water vapor effect on direct sulfation during wet-recycle oxy-coal combustion. <i>Applied Energy</i> , 2013, 108, 121-127.	5.1	49
31	Enhanced CO ₂ capture capacity of limestone by discontinuous addition of hydrogen chloride in carbonation at calcium looping conditions. <i>Chemical Engineering Journal</i> , 2017, 316, 438-448.	6.6	48
32	NO precursors evolution during coal heating process in CO ₂ atmosphere. <i>Fuel</i> , 2011, 90, 1668-1673.	3.4	47
33	CO ₂ capture performance of a novel synthetic CaO/sepiolite sorbent at calcium looping conditions. <i>Applied Energy</i> , 2017, 203, 412-421.	5.1	47
34	CO ₂ Capture Performance of Mesoporous Synthetic Sorbent Fabricated Using Carbide Slag under Realistic Calcium Looping Conditions. <i>Energy & Fuels</i> , 2017, 31, 7299-7308.	2.5	47
35	Sulfur evolution from coal combustion in O ₂ /CO ₂ mixture. <i>Journal of Analytical and Applied Pyrolysis</i> , 2009, 86, 269-273.	2.6	44
36	Three-dimensional CFD simulation of oxy-fuel combustion in a circulating fluidized bed with warm flue gas recycle. <i>Fuel</i> , 2018, 216, 596-611.	3.4	43

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37	Synergistic enhancement of chemical looping-based CO ₂ splitting with biomass cascade utilization using cyclic stabilized Ca ₂ Fe ₂ O ₅ aerogel. <i>Journal of Materials Chemistry A</i> , 2019, 7, 1216-1226.	5.2	43
38	Enhancement of reactivity in surfactant-modified sorbent for CO ₂ capture in pressurized carbonation. <i>Fuel Processing Technology</i> , 2011, 92, 493-499.	3.7	41
39	Fly ash recirculation by bottom feeding on a circulating fluidized bed boiler co-burning coal sludge and coal. <i>Applied Energy</i> , 2012, 95, 295-299.	5.1	37
40	Effect of SO ₂ and steam on CO ₂ capture performance of biomass-templated calcium aluminate pellets. <i>Faraday Discussions</i> , 2016, 192, 97-111.	1.6	36
41	Flow characteristics in pressurized oxy-fuel fluidized bed under hot condition. <i>International Journal of Multiphase Flow</i> , 2018, 108, 1-10.	1.6	36
42	Solid-gaseous phase transformation of elemental contaminants during the gasification of biomass. <i>Science of the Total Environment</i> , 2016, 563-564, 724-730.	3.9	35
43	Fundamental study on fuel-staged oxy-fuel fluidized bed combustion. <i>Combustion and Flame</i> , 2019, 206, 227-238.	2.8	35
44	Arsenic transformation behaviour during thermal decomposition of <i>P. vittata</i> , an arsenic hyperaccumulator. <i>Journal of Analytical and Applied Pyrolysis</i> , 2017, 124, 584-591.	2.6	34
45	Effect of Water Vapor on Indirect Sulfation during Oxy-fuel Combustion. <i>Energy & Fuels</i> , 2013, 27, 1506-1512.	2.5	33
46	CO ₂ Capture Performance Using Biomass-Templated Cement-Supported Limestone Pellets. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 10294-10300.	1.8	33
47	Combustion characteristics of lignite char in a fluidized bed under O ₂ /N ₂ , O ₂ /CO ₂ and O ₂ /H ₂ O atmospheres. <i>Fuel Processing Technology</i> , 2019, 186, 8-17.	3.7	33
48	A calcium looping process for simultaneous CO ₂ capture and peak shaving in a coal-fired power plant. <i>Applied Energy</i> , 2019, 235, 480-486.	5.1	33
49	Assessment of the Effect of Process Conditions and Material Characteristics of Alkali Metal Salt Promoted MgO-Based Sorbents on Their CO ₂ Capture Performance. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 6659-6672.	3.2	32
50	NO formation during agricultural straw combustion. <i>Bioresource Technology</i> , 2011, 102, 7211-7217.	4.8	31
51	Ignition and volatile combustion behaviors of a single lignite particle in a fluidized bed under O ₂ /H ₂ O condition. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 4451-4459.	2.4	31
52	Experimental study of a single char particle combustion characteristics in a fluidized bed under O ₂ /H ₂ O condition. <i>Chemical Engineering Journal</i> , 2020, 382, 122942.	6.6	31
53	A simulation study of coal combustion under O ₂ /CO ₂ and O ₂ /RFG atmospheres in circulating fluidized bed. <i>Chemical Engineering Journal</i> , 2013, 223, 816-823.	6.6	30
54	Partitioning of trace elements, As, Ba, Cd, Cr, Cu, Mn and Pb, in a 2.5 MWth pilot-scale circulating fluidised bed combustor burning an anthracite and a bituminous coal. <i>Fuel Processing Technology</i> , 2016, 146, 1-8.	3.7	30

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55	Catalysts of Ordered Mesoporous Alumina with a Large Pore Size for Low-Temperature Hydrolysis of Carbonyl Sulfide. <i>Energy & Fuels</i> , 2021, 35, 8895-8908.	2.5	30
56	Sulfur trioxide formation/emissions in coal-fired air- and oxy-fuel combustion processes: a review. , 2018, 8, 402-428.		29
57	Attrition behavior of calcium-based waste during CO ₂ capture cycles using calcium looping in a fluidized bed reactor. <i>Chemical Engineering Research and Design</i> , 2016, 109, 806-815.	2.7	28
58	Metal-oxide stabilized CaO/CuO composites for the integrated Ca/Cu looping process. <i>Chemical Engineering Journal</i> , 2021, 403, 126330.	6.6	28
59	Partitioning behavior of Arsenic in circulating fluidized bed boilers co-firing petroleum coke and coal. <i>Fuel Processing Technology</i> , 2017, 166, 107-114.	3.7	27
60	SO ₃ formation under oxy-CFB combustion conditions. <i>International Journal of Greenhouse Gas Control</i> , 2015, 43, 172-178.	2.3	25
61	Explaining steam-enhanced carbonation of CaO based on first principles. , 2018, 8, 1110-1123.		25
62	Ash deposition during pressurized oxy-fuel combustion of Zhundong coal in a lab-scale fluidized bed. <i>Fuel Processing Technology</i> , 2020, 204, 106411.	3.7	25
63	Particulate matter formation mechanism during pressurized air- and oxy-coal combustion in a 10kWth fluidized bed. <i>Fuel Processing Technology</i> , 2022, 225, 107064.	3.7	25
64	SO ₃ formation and the effect of fly ash in a bubbling fluidised bed under oxy-fuel combustion conditions. <i>Fuel Processing Technology</i> , 2017, 167, 314-321.	3.7	24
65	Migration and emission of mercury from circulating fluidized bed boilers co-firing petroleum coke and coal. <i>Fuel</i> , 2018, 215, 638-646.	3.4	24
66	Effect of re-carbonation on CO ₂ capture by carbide slag and energy consumption in the calciner. <i>Energy Conversion and Management</i> , 2017, 148, 1468-1477.	4.4	22
67	Mechanism of steam-declined sulfation and steam-enhanced carbonation by DFT calculations. , 2020, 10, 472-483.		22
68	Effect of CO ₂ and H ₂ O on lignite char structure and reactivity in a fluidized bed reactor. <i>Fuel Processing Technology</i> , 2021, 211, 106564.	3.7	22
69	Chemical looping co-conversion of CH ₄ and CO ₂ using Fe ₂ O ₃ /Al ₂ O ₃ pellets as both oxygen carrier and catalyst in a fluidized bed reactor. <i>Chemical Engineering Journal</i> , 2022, 428, 132133.	6.6	22
70	Attrition Study of Cement-Supported Biomass-Activated Calcium Sorbents for CO ₂ Capture. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 9476-9484.	1.8	21
71	Sulfur fate during bituminous coal combustion in an oxy-fired circulating fluidized bed combustor. <i>Korean Journal of Chemical Engineering</i> , 2011, 28, 1952-1955.	1.2	20
72	Numerical simulation of circulating fluidized bed oxy-fuel combustion with Dense Discrete Phase Model. <i>Fuel Processing Technology</i> , 2019, 195, 106129.	3.7	20

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73	Solar-Wind-Bio Ecosystem for Biomass Cascade Utilization with Multigeneration of Formic Acid, Hydrogen, and Graphene. ACS Sustainable Chemistry and Engineering, 2019, 7, 2558-2568.	3.2	19
74	Effect of steam hydration on reactivity and strength of cement-supported calcium sorbents for CO ₂ capture. , 2017, 7, 915-926.		18
75	A kinetic study on lignite char gasification with CO ₂ and H ₂ O in a fluidized bed reactor. Applied Thermal Engineering, 2019, 147, 602-609.	3.0	18
76	Flame spray pyrolysis synthesized CuO-CeO ₂ composite for catalytic combustion of C ₃ H ₆ . Proceedings of the Combustion Institute, 2021, 38, 6513-6520.	2.4	18
77	Cyclic Oxygen Release Characteristics of Bifunctional Copper Oxide/Calcium Oxide Composites. Energy Technology, 2016, 4, 1171-1178.	1.8	17
78	HCl removal performance of Mg-stabilized carbide slag from carbonation/calcination cycles for CO ₂ capture. RSC Advances, 2016, 6, 104303-104310.	1.7	15
79	Movement and mixing behavior of a single biomass particle during combustion in a hot fluidized bed combustor. Powder Technology, 2020, 370, 88-95.	2.1	15
80	Sulfur Enrichment in Particulate Matter Generated from a Lab-Scale Pressurized Fluidized Bed Combustor. Energy & Fuels, 2019, 33, 603-611.	2.5	14
81	Pressurized oxy-fuel combustion of a char particle in the fluidized bed combustor. Proceedings of the Combustion Institute, 2021, 38, 5485-5492.	2.4	14
82	Particulate matter formation during shoe manufacturing waste combustion in a full-scale CFB boiler. Fuel Processing Technology, 2021, 221, 106914.	3.7	14
83	Particulate Matter Formation and Alkali and Alkaline Earth Metal Partitioning in a Pressurized Oxy-fuel Fluidized-Bed Combustor. Energy & Fuels, 2019, 33, 10895-10903.	2.5	13
84	Copper-based oxygen carriers supported with alumina/lime for the chemical looping conversion of gaseous fuels. Journal of Energy Chemistry, 2017, 26, 891-901.	7.1	11
85	Effects of Air Pollution Control Devices on the Chlorine Emission from 410 t/h Circulating Fluidized Bed Boilers Co-firing Petroleum Coke and Coal. Energy & Fuels, 2018, 32, 4410-4416.	2.5	11
86	Experimental study on in-situ denitration using catalyst in fluidized bed reactor. Fuel Processing Technology, 2021, 216, 106742.	3.7	11
87	Combustion Characteristics and Pollutants in the Flue Gas During Shoe Manufacturing Waste Combustion in a 2.5MWth Pilot-Scale Circulating Fluidized Bed. Waste and Biomass Valorization, 2020, 11, 1603-1614.	1.8	9
88	An investigation on the heat transfer model for immersed horizontal tube bundles in a pressurized fluidized bed. Applied Thermal Engineering, 2020, 170, 115035.	3.0	9
89	Movement and combustion characteristics of densified rice hull pellets in a fluidized bed combustor at elevated pressures. Fuel, 2021, 294, 120421.	3.4	9
90	Emission properties of PM _{2.5} derived from CFB under O ₂ /CO ₂ atmosphere. Proceedings of the Combustion Institute, 2011, 33, 2829-2835.	2.4	8

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91	Experimental and kinetic study of thermal decomposition behaviour of phytoremediation derived <i>Pteris vittata</i> . <i>Journal of Thermal Analysis and Calorimetry</i> , 2017, 128, 1207-1216.	2.0	8
92	CO ₂ capture and attrition performance of competitive eco-friendly calcium-based pellets in fluidized bed. , 2018, 8, 1124-1133.		8
93	Thermal radiation characteristics in dilute phase region of the oxy-fuel combustion pressurized fluidized bed. <i>Applied Thermal Engineering</i> , 2020, 179, 115659.	3.0	8
94	Bed-to-tube heat transfer characteristics with an immersed horizontal tube in the pressurized fluidized bed at high temperature. <i>International Communications in Heat and Mass Transfer</i> , 2021, 124, 105270.	2.9	8
95	Human health risk identification of petrochemical sites based on extreme gradient boosting. <i>Ecotoxicology and Environmental Safety</i> , 2022, 233, 113332.	2.9	8
96	A Hydrodynamic Study of a Fast Bed Dual Circulating Fluidized Bed for Chemical Looping Combustion. <i>Energy Technology</i> , 2016, 4, 1254-1262.	1.8	7
97	The Gas Interchange between Bubble and Emulsion Phases in a Pressurized Fluidized Bed by Computational Fluid Dynamics Simulations. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 4142-4152.	1.8	7
98	Carbonation kinetics of flyash-modified calcium-based sorbents for CO ₂ capture. , 2018, 8, 292-308.		6
99	Ash deposition mechanism of shoe manufacturing waste combustion in a full-scale CFB boiler. <i>Fuel Processing Technology</i> , 2021, 221, 106948.	3.7	6
100	Latest research progress on food waste management: a comprehensive review. <i>IOP Conference Series: Earth and Environmental Science</i> , 2018, 153, 062043.	0.2	4
101	Synergistic Removal of SO _x and NO _x in CO ₂ Compression and Purification in Oxy-Fuel Combustion Power Plant. <i>Energy & Fuels</i> , 2019, 33, 12621-12627.	2.5	4
102	A GPU-based line-by-line method for thermal radiation transfer of H ₂ O, CO ₂ , and H ₂ O/CO ₂ mixture. <i>Applied Thermal Engineering</i> , 2020, 167, 114799.	3.0	4
103	Heat transfer characteristics of horizontal tubes in the dilute phase of the pressurized fluidized bed. <i>International Communications in Heat and Mass Transfer</i> , 2021, 126, 105370.	2.9	4
104	Accelerated syngas generation from chemical looping CH ₄ reforming by using reduced ilmenite ore as catalyst. <i>Fuel Processing Technology</i> , 2022, 232, 107270.	3.7	4
105	Oxygen uncoupling behaviour for ilmenite ore oxygen carrier generated from a calcination treatment mixed with natural manganese ore. <i>Canadian Journal of Chemical Engineering</i> , 2023, 101, 805-818.	0.9	3
106	Chemical Characteristics of Ash Formed from the Combustion of Shoe Manufacturing Waste in a 2.5 MWth Circulating Fluidized Bed Combustor. <i>Waste and Biomass Valorization</i> , 2020, 11, 4551-4560.	1.8	2
107	Radiative property model for non-gray particle based on dependent scattering. <i>Powder Technology</i> , 2021, 394, 863-878.	2.1	2
108	Gasification Decoupling during Pressurized Oxy-Coal Combustion by the Isotope Tracer Method. <i>Energy & Fuels</i> , 2022, 36, 3239-3246.	2.5	2

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109	Radiative heat transfer in splash and dilution zones of the pressurized oxy-fuel combustion CFB considering particle-dependent scattering. <i>Advanced Powder Technology</i> , 2022, 33, 103697.	2.0	1
110	Heat Transfer Characteristics in the Dense Phase Region of a Pressurized Fluidized Bed. <i>Journal of Chemical Engineering of Japan</i> , 2020, 53, 516-525.	0.3	0