

Fabrizio Scala

List of Publications by Year in descending order

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119
papers

3,613
citations

109137

35
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174990

52
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120
all docs

120
docs citations

120
times ranked

2023
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism and prediction of bed agglomeration during fluidized bed combustion of a biomass fuel: Effect of the reactor scale. <i>Chemical Engineering Journal</i> , 2006, 123, 71-80.	6.6	131
2	Attrition of sorbents during fluidized bed calcination and sulphation. <i>Powder Technology</i> , 2000, 107, 153-167.	2.1	116
3	Comminution of limestone during batch fluidized-bed calcination and sulfation. <i>AIChE Journal</i> , 1997, 43, 363-373.	1.8	107
4	An SEM/EDX study of bed agglomerates formed during fluidized bed combustion of three biomass fuels. <i>Biomass and Bioenergy</i> , 2008, 32, 252-266.	2.9	103
5	Modelling fluidized bed combustion of high-volatile solid fuels. <i>Chemical Engineering Science</i> , 2002, 57, 1175-1196.	1.9	87
6	Combustion and Attrition of Biomass Chars in a Fluidized Bed. <i>Energy & Fuels</i> , 2006, 20, 91-102.	2.5	87
7	Characterization and Early Detection of Bed Agglomeration during the Fluidized Bed Combustion of Olive Husk. <i>Energy & Fuels</i> , 2006, 20, 120-132.	2.5	86
8	Attrition of Limestone by Impact Loading in Fluidized Beds. <i>Energy & Fuels</i> , 2007, 21, 2566-2572.	2.5	84
9	Fluidized bed combustion of alternative solid fuels. <i>Experimental Thermal and Fluid Science</i> , 2004, 28, 691-699.	1.5	79
10	Particle agglomeration during fluidized bed combustion: Mechanisms, early detection and possible countermeasures. <i>Fuel Processing Technology</i> , 2018, 171, 31-38.	3.7	72
11	Fluidized bed combustion of pelletized biomass and waste-derived fuels. <i>Combustion and Flame</i> , 2008, 155, 21-36.	2.8	69
12	Mass transfer around freely moving active particles in the dense phase of a gas fluidized bed of inert particles. <i>Chemical Engineering Science</i> , 2007, 62, 4159-4176.	1.9	67
13	Fluidized bed calcium looping: The effect of SO ₂ on sorbent attrition and CO ₂ capture capacity. <i>Chemical Engineering Journal</i> , 2012, 207-208, 445-449.	6.6	58
14	Fluidized bed technologies for near-zero emission combustion and gasification. , 2013, , .		58
15	Fluidized Bed Combustion of a Biomass Char (<i>Robinia pseudoacacia</i>). <i>Energy & Fuels</i> , 2000, 14, 781-790.	2.5	57
16	Characterization of a regenerable sorbent for high temperature elemental mercury capture from flue gas. <i>Fuel</i> , 2013, 108, 13-18.	3.4	56
17	Fluidized bed calcium looping cycles for CO ₂ capture under oxy-firing calcination conditions: Part 1. Assessment of six limestones. <i>Chemical Engineering Journal</i> , 2013, 231, 537-543.	6.6	54
18	Modeling flue gas desulfurization by spray-dry absorption. <i>Separation and Purification Technology</i> , 2004, 34, 143-153.	3.9	53

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19	Elemental mercury capture and oxidation by a regenerable manganese-based sorbent: The effect of gas composition. <i>Chemical Engineering Journal</i> , 2015, 278, 134-139.	6.6	52
20	Relevance of structure, fragmentation and reactivity of coal to combustion and oxy-combustion. <i>Fuel</i> , 2017, 201, 65-80.	3.4	51
21	The influence of temperature on limestone sulfation and attrition under fluidized bed combustion conditions. <i>Experimental Thermal and Fluid Science</i> , 2010, 34, 352-358.	1.5	50
22	Fluidized bed combustion of single coal char particles at high CO ₂ concentration. <i>Chemical Engineering Journal</i> , 2010, 165, 902-906.	6.6	49
23	The attrition behaviour of oxygen-carriers under inert and reacting conditions. <i>Chemical Engineering Science</i> , 2012, 71, 449-467.	1.9	49
24	Simulation of Mercury Capture by Activated Carbon Injection in Incinerator Flue Gas. 1. In-Duct Removal. <i>Environmental Science & Technology</i> , 2001, 35, 4367-4372.	4.6	48
25	Reactivation by water hydration of the CO ₂ capture capacity of a calcium looping sorbent. <i>Fuel</i> , 2014, 127, 109-115.	3.4	48
26	Mercury emissions from coal combustion: Modeling and comparison of Hg capture in a fabric filter versus an electrostatic precipitator. <i>Journal of Hazardous Materials</i> , 2008, 152, 616-623.	6.5	47
27	On the Relevance of Axial and Transversal Fuel Segregation during the FB Combustion of a Biomass. <i>Energy & Fuels</i> , 2004, 18, 1108-1117.	2.5	46
28	Attrition of Limestone During Fluidized Bed Calcium Looping Cycles for CO ₂ Capture. <i>Combustion Science and Technology</i> , 2012, 184, 929-941.	1.2	45
29	An experimental investigation on seawater SO ₂ scrubbing for marine application. <i>Environmental Progress and Sustainable Energy</i> , 2013, 32, 1179-1186.	1.3	43
30	The relevance of attrition to the fate of ashes during fluidized-bed combustion of a biomass. <i>Proceedings of the Combustion Institute</i> , 2000, 28, 2279-2286.	2.4	42
31	Seawater scrubbing desulfurization: A model for SO ₂ absorption in fall-down droplets. <i>Environmental Progress and Sustainable Energy</i> , 2012, 31, 277-287.	1.3	42
32	Combustion of Single Coal Char Particles under Fluidized Bed Oxyfiring Conditions. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 11029-11036.	1.8	40
33	Elemental mercury vapor capture by powdered activated carbon in a fluidized bed reactor. <i>Fuel</i> , 2011, 90, 2077-2082.	3.4	39
34	A comparative characterization study of Ca-looping natural sorbents. <i>Applied Energy</i> , 2013, 108, 373-382.	5.1	38
35	Enhancement of Sulfur Uptake by Hydration of Spent Limestone for Fluidized-Bed Combustion Application. <i>Industrial & Engineering Chemistry Research</i> , 2001, 40, 2495-2501.	1.8	37
36	Flue gas desulfurization under simulated oxyfiring fluidized bed combustion conditions: The influence of limestone attrition and fragmentation. <i>Chemical Engineering Science</i> , 2010, 65, 556-561.	1.9	37

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37	The influence of fine char particles burnout on bed agglomeration during the fluidized bed combustion of a biomass fuel. <i>Fuel Processing Technology</i> , 2003, 84, 229-241.	3.7	36
38	Reactivation by Steam Hydration of Sorbents for Fluidized-Bed Calcium Looping. <i>Energy & Fuels</i> , 2015, 29, 4436-4446.	2.5	35
39	Simulation of Mercury Capture by Activated Carbon Injection in Incinerator Flue Gas. 2. Fabric Filter Removal. <i>Environmental Science & Technology</i> , 2001, 35, 4373-4378.	4.6	34
40	Hydration-induced reactivation of spent sorbents for fluidized bed calcium looping (double looping). <i>Fuel Processing Technology</i> , 2014, 120, 71-78.	3.7	34
41	Fluidized bed co-combustion of hydrothermally treated paper sludge with two coals of different rank. <i>Fuel Processing Technology</i> , 2016, 144, 230-238.	3.7	34
42	Rotation-assisted Abrasive Fluidised Bed Machining of AlSi10Mg parts made through Selective Laser Melting Technology. <i>Procedia Manufacturing</i> , 2020, 47, 1043-1049.	1.9	34
43	Sulphation of limestones in a fluidized bed combustor: The relationship between particle attrition and microstructure. <i>Canadian Journal of Chemical Engineering</i> , 2008, 86, 347-355.	0.9	33
44	Chemical Looping for Combustion of Solid Biomass: A Review. <i>Energy & Fuels</i> , 2021, 35, 19248-19265.	2.5	32
45	An assessment of water and steam reactivation of a fluidized bed spent sorbent for enhanced SO ₂ capture. <i>Powder Technology</i> , 2008, 180, 129-134.	2.1	31
46	Primary fragmentation of limestone under oxy-firing conditions in a bubbling fluidized bed. <i>Fuel Processing Technology</i> , 2011, 92, 1449-1456.	3.7	31
47	Performance of Natural Sorbents during Calcium Looping Cycles: A Comparison between Fluidized Bed and Thermo-Gravimetric Tests. <i>Energy & Fuels</i> , 2013, 27, 6048-6054.	2.5	31
48	Fluidized bed calcium looping cycles for CO ₂ capture under oxy-firing calcination conditions: Part 2. Assessment of dolomite vs. limestone. <i>Chemical Engineering Journal</i> , 2013, 231, 544-549.	6.6	31
49	Fluidized bed desulfurization using lime obtained after slow calcination of limestone particles. <i>Fuel</i> , 2013, 114, 99-105.	3.4	31
50	The influence of sorbent properties and reaction temperature on sorbent attrition, sulfur uptake, and particle sulfation pattern during fluidized-bed desulfurization. <i>Combustion Science and Technology</i> , 2002, 174, 151-169.	1.2	29
51	Removal of Elemental Mercury by MnO _x Catalysts Supported on TiO ₂ or Al ₂ O ₃ . <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 5133-5138.	1.8	29
52	Effect of steam on the performance of Ca-based sorbents in calcium looping processes. <i>Powder Technology</i> , 2017, 316, 578-584.	2.1	29
53	Dolomite attrition during fluidized-bed calcination and sulfation. <i>Combustion Science and Technology</i> , 2003, 175, 2201-2216.	1.2	28
54	Fluidized bed gasification of lignite char with CO ₂ and H ₂ O: A kinetic study. <i>Proceedings of the Combustion Institute</i> , 2015, 35, 2839-2846.	2.4	28

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55	Limestone fragmentation and attrition during fluidized bed oxyfiring. <i>Fuel</i> , 2010, 89, 827-832.	3.4	27
56	Modeling Mercury Capture in Coal-Fired Power Plant Flue Gas. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 2575-2589.	1.8	26
57	Devolatilization and Attrition Behavior of Fuel Pellets during Fluidized-Bed Gasification. <i>Energy & Fuels</i> , 2011, 25, 1260-1266.	2.5	26
58	A thermodynamic study of sorption-enhanced CO ₂ methanation at low pressure. <i>Journal of CO₂ Utilization</i> , 2020, 35, 176-184.	3.3	26
59	Fluidized-bed combustion of a biomass char: The influence of carbon attrition and fines postcombustion on fixed carbon conversion. <i>Proceedings of the Combustion Institute</i> , 1998, 27, 3103-3110.	0.3	24
60	Assessment of ettringite from hydrated FBC residues as a sorbent for fluidized bed desulphurization. <i>Fuel</i> , 2003, 82, 2299-2307.	3.4	24
61	A model of the dynamics of a fluidized bed combustor burning biomass. <i>Combustion and Flame</i> , 2005, 140, 371-384.	2.8	24
62	A single particle model of the fluidized bed combustion of a char particle with a coherent ash skeleton: Application to granulated sewage sludge. <i>Fuel Processing Technology</i> , 2007, 88, 577-584.	3.7	24
63	A new technique for the measurement of the product CO/CO ₂ ratio at the surface of char particles burning in a fluidized bed. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 2021-2027.	2.4	23
64	The combined effect of H ₂ O and SO ₂ on CO ₂ uptake and sorbent attrition during fluidised bed calcium looping. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 4379-4387.	2.4	23
65	Reactivation by Water Hydration of Spent Sorbent for Fluidized-Bed Combustion Application: Influence of Hydration Time. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 5692-5701.	1.8	22
66	Attrition of limestones by impact loading in fluidized beds: The influence of reaction conditions. <i>Fuel Processing Technology</i> , 2010, 91, 1022-1027.	3.7	22
67	The effect of steam on CO ₂ uptake and sorbent attrition in fluidised bed calcium looping: The influence of process conditions and sorbent properties. <i>Separation and Purification Technology</i> , 2017, 189, 101-107.	3.9	22
68	A Population Balance Model on Sorbent in CFB Combustors: The Influence of Particle Attrition. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 9704-9711.	1.8	21
69	Particle-fluid mass transfer in multiparticle systems at low Reynolds numbers. <i>Chemical Engineering Science</i> , 2013, 91, 90-101.	1.9	21
70	Fluidized-Bed Combustion of Single Coal Char Particles: An Analysis of the Burning Rate and of the Primary CO/CO ₂ Ratio. <i>Energy & Fuels</i> , 2011, 25, 1051-1059.	2.5	19
71	Effect of exposure to SO ₂ and H ₂ O during the carbonation stage of fluidised bed calcium looping on the performance of sorbents of different nature. <i>Chemical Engineering Journal</i> , 2019, 377, 120626.	6.6	19
72	Fluidized bed combustion of tyre derived fuel. <i>Experimental Thermal and Fluid Science</i> , 2003, 27, 465-471.	1.5	18

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73	Attrition during steam gasification of lignite char in a fluidized bed reactor. <i>Fuel Processing Technology</i> , 2016, 141, 38-43.	3.7	18
74	Spray-Dry Desulfurization of Flue Gas from Heavy Oil Combustion. <i>Journal of the Air and Waste Management Association</i> , 2005, 55, 20-29.	0.9	17
75	Experimental study of filtration system performance of natural gas in urban transmission and distribution network: A case study on the city of Kerman, Iran. <i>Fuel</i> , 2011, 90, 1166-1171.	3.4	16
76	A twin-bed test reactor for characterization of calcium looping sorbents. <i>Powder Technology</i> , 2017, 316, 585-591.	2.1	16
77	Steam reactivation of a spent sorbent for enhanced SO ₂ capture in FBC. <i>AIChE Journal</i> , 2006, 52, 4090-4098.	1.8	15
78	Attrition phenomena relevant to fluidized bed combustion and gasification systems. , 2013, , 254-315.		15
79	A Preliminary Techno-Economic Analysis on the Calcium Looping Process with Simultaneous Capture of CO ₂ and SO ₂ from a Coal-Based Combustion Power Plant. <i>Energies</i> , 2020, 13, 2176.	1.6	15
80	Pilot-scale combined pyrolysis and decoupling biomass gasification for energy and metal recovery from discarded printed circuit board and waste cable. <i>Energy</i> , 2022, 245, 123268.	4.5	15
81	Carbon capture and utilization via calcium looping, sorption enhanced methanation and green hydrogen: A techno-economic analysis and life cycle assessment study. <i>Fuel</i> , 2022, 328, 125255.	3.4	15
82	Absorption with instantaneous reaction in a droplet with sparingly soluble fines. <i>AIChE Journal</i> , 2002, 48, 1719-1726.	1.8	14
83	A case study on suspended particles in a natural gas urban transmission and distribution network. <i>Fuel Processing Technology</i> , 2012, 93, 65-72.	3.7	14
84	Assessment of Sorbent Reactivation by Water Hydration for Fluidized Bed Combustion Application. <i>Journal of Energy Resources Technology, Transactions of the ASME</i> , 2006, 128, 90-98.	1.4	13
85	Influence of Abrasive Materials in Fluidised Bed Machining of AlSi10Mg Parts Made through Selective Laser Melting Technology. <i>Key Engineering Materials</i> , 2019, 813, 129-134.	0.4	13
86	Calculation of the mass transfer coefficient for the combustion of a carbon particle. <i>Combustion and Flame</i> , 2010, 157, 137-142.	2.8	12
87	Attrition of lignite char during fluidized bed gasification. <i>Experimental Thermal and Fluid Science</i> , 2012, 43, 9-12.	1.5	12
88	Impact fragmentation of limestone-based sorbents for calcium looping: The effect of steam and sulphur dioxide. <i>Fuel Processing Technology</i> , 2020, 208, 106499.	3.7	12
89	Looping cycles for low carbon technologies: A survey of recent research activities in Naples. <i>Fuel</i> , 2020, 268, 117371.	3.4	12
90	Attrition of lignite char under fluidized bed gasification conditions: The effect of carbon conversion. <i>Proceedings of the Combustion Institute</i> , 2013, 34, 2741-2747.	2.4	11

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91	Evaluation of two sorbents for the sorption-enhanced methanation in a dual fluidized bed system. <i>Biomass Conversion and Biorefinery</i> , 2021, 11, 111-119.	2.9	11
92	Recent Advances in Fluidized Bed Hydrodynamics and Transport Phenomena—Progress and Understanding. <i>Processes</i> , 2021, 9, 639.	1.3	11
93	Fluidized Bed Combustion of a Biomass Fuel: Comparison Between Pilot Scale Experiments and Model Simulations. <i>Journal of Heat Transfer</i> , 2005, 127, 117-122.	1.2	9
94	The influence of reactivation by hydration of spent SO ₂ sorbents on their impact fragmentation in fluidized bed combustors. <i>Chemical Engineering Journal</i> , 2010, 162, 1067-1074.	6.6	9
95	The effect of pelletization on the attrition of wood under fluidized bed combustion and gasification conditions. <i>Proceedings of the Combustion Institute</i> , 2013, 34, 2735-2740.	2.4	9
96	Combined mercury removal and low-temperature NH ₃ -SCR OF NO with MnO _x /TiO ₂ sorbents/catalysts. <i>Combustion Science and Technology</i> , 2018, 190, 1488-1499.	1.2	9
97	Performance of limestone-based sorbent for sorption-enhanced gasification in dual interconnected fluidized bed reactors. <i>AIChE Journal</i> , 2023, 69, e17588.	1.8	8
98	Mass Transfer around Active Particles in Fluidized Beds. , 0, , .		7
99	The effect of hydrothermal treatment on attrition during the fluidized bed combustion of paper sludge. <i>Fuel Processing Technology</i> , 2015, 140, 57-66.	3.7	7
100	Characterization of calcium looping sorbents with a novel twin bed reactor. <i>Fuel Processing Technology</i> , 2018, 172, 49-54.	3.7	7
101	Environmental risks related to organic compounds from the combustion of paper briquettes in domestic boilers. <i>Journal of Hazardous Materials</i> , 2021, 418, 126291.	6.5	7
102	Sound-Assisted Fluidized Bed Combustion of Fine Particles. <i>Combustion Science and Technology</i> , 2000, 153, 83-93.	1.2	6
103	In-duct Removal of Mercury from Coal-Fired Power Plant Flue Gas by Activated Carbon: Assessment of Entrained Flow Versus Wall Surface Contributions. <i>Environmental Engineering Science</i> , 2008, 25, 1423-1428.	0.8	6
104	Fragmentation of biomass-templated CaO-based pellets. <i>Fuel</i> , 2017, 187, 388-397.	3.4	6
105	Conversion of solid fuels and sorbents in fluidized bed combustion and gasification. , 2013, , 319-387.		5
106	Fluidized bed CaO hydration-dehydration cycles for application to sorption-enhanced methanation. <i>Combustion Science and Technology</i> , 2019, 191, 1724-1733.	1.2	5
107	Set-Up of an Experimental Procedure for the Surface Smoothing of FDM Parts through Acetone Vapor. <i>Key Engineering Materials</i> , 2019, 813, 447-452.	0.4	5
108	Direct Dry Carbonation of Mining and Industrial Wastes in a Fluidized Bed for Offsetting Carbon Emissions. <i>Processes</i> , 2022, 10, 582.	1.3	5

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109	Limestone Attrition under Simulated Oxyfiring Fluidized-Bed Combustion Conditions. Chemical Engineering and Technology, 2009, 32, 380-385.	0.9	4
110	Heat and mass transfer in fluidized bed combustion and gasification systems. , 2013, , 177-253.		4
111	Combustion of Coal Char Particles under Fluidized Bed Oxyfiring Conditions. , 2009, , 624-629.		2
112	Steam Reactivation of FB Spent Sorbent for Enhanced SO ₂ Capture: The Relationship Between Microstructural Properties and Sulphur Uptake. , 2005, , .		2
113	Sorbent Inventory and Particle Size Distribution in Air-Blown Circulating Fluidized Bed Combustors: The Influence of Particle Attrition and Fragmentation. , 2009, , 966-971.		2
114	Performance of Ca-Based Sorbents for Calcium Looping Processes: Role of Steam. Advanced Science Letters, 2017, 23, 5920-5922.	0.2	2
115	Assessment of Sorbent Reactivation by Water Hydration for Fluidized Bed Combustion Application. , 2003, , 429.		1
116	FB Combustion of a Biomass Fuel: Comparison Between Pilot Scale Experiments and Model Simulations. , 2003, , .		1
117	Bed Agglomeration During the Fluidized Bed Combustion of Olive Husk. , 2005, , .		0
118	The Influence of Sorbent Properties and Reaction Conditions on Attrition of Limestone by Impact Loading in Fluidized Beds. , 2009, , 486-491.		0
119	An Innovative Lab-Scale Apparatus for the Characterization of Calcium Looping Sorbents. Advanced Science Letters, 2017, 23, 5923-5926.	0.2	0