Stefan Heinrich

List of Publications by Year
in descending order

233	6,359	57758	95266
papers	citations	44 h-index	68 g-index

257	257	257	3445
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Energy absorption during compression and impact of dry elastic-plastic spherical granules. Granular Matter, 2010, 12, 15-47.	2.2	211
2	Improved accuracy and convergence of discretized population balance for aggregation: The cell average technique. Chemical Engineering Science, 2006, 61, 3327-3342.	3.8	195
3	DEMâ€“CFD modeling of a fluidized bed spray granulator. Chemical Engineering Science, 2011, 66, 2340-2355.	3.8	193
4	Breakage behaviour of spherical granulates by compression. Chemical Engineering Science, 2005, 60, 4031-4044.	3.8	185
5	Impact breakage of spherical granules: Experimental study and DEM simulation. Chemical Engineering and Processing: Process Intensification, 2006, 45, 838-856.	3.6	151
6	CPFD simulation of circulating fluidized bed risers. Powder Technology, 2013, 235, 238-247.	4.2	148
7	Operational experience with a system of coupled fluidized beds for chemical looping combustion of solid fuels using ilmenite as oxygen carrier. Applied Energy, 2014, 118, 309-317.	10.1	133
8	Collision dynamics in fluidised bed granulators: A DEM-CFD study. Chemical Engineering Science, 2013, 86, 108-123.	3.8	122
9	A novel process for coating of silica aerogel microspheres for controlled drug release applications. Microporous and Mesoporous Materials, 2012, 160, 167-173.	4.4	112
10	Alginate-based hybrid aerogel microparticles for mucosal drug delivery. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 107, 160-170.	4.3	109
11	Membrane assisted fluidized bed reactors: Potentials and hurdles. Chemical Engineering Science, 2007, 62, 416-436.	3.8	104
12	CFDâ€“DEM model for coupled heat and mass transfer in a spout fluidized bed with liquid injection. Chemical Engineering Journal, 2016, 288, 185-197.	12.7	100
13	Influence of liquid layers on energy absorption during particle impact. Particuology, 2009, 7, 245-259.	3.6	99
14	Analysis of the start-up process in continuous fluidized bed spray granulation by population balance modelling. Chemical Engineering Science, 2002, 57, 4369-4390.	3.8	96
15	An efficient numerical technique for solving population balance equation involving aggregation, breakage, growth and nucleation. Powder Technology, 2008, 182, 81-104.	4.2	94
16	Characterization and CFD-DEM modelling of a prismatic spouted bed. Powder Technology, 2015, 270, 622-636.	4.2	90
17	Development of egg white protein aerogels as new matrix material for microencapsulation in food. Journal of Supercritical Fluids, 2015, 106, 42-49.	3.2	82
18	Characterization and CFD-modeling of the hydrodynamics of a prismatic spouted bed apparatus. Chemical Engineering Science, 2009, 64, 3352-3375.	3.8	73

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19	An experimental study of the effect of collision properties on spout fluidized bed dynamics. Powder Technology, 2011, 206, 139-148.	4.2	70
20	CFDâ€“DEM study and direct measurement of the granular flow in a rotor granulator. Chemical Engineering Science, 2013, 86, 151-163.	3.8	68
21	Coefficient of restitution for particles impacting on wet surfaces: An improved experimental approach. Particuology, 2016, 25, 1-9.	3.6	67
22	The cell average technique for solving multi-dimensional aggregation population balance equations. Computers and Chemical Engineering, 2008, 32, 1810-1830.	3.8	63
23	Breakage behaviour of agglomerates and crystals by static loading and impact. Powder Technology, 2011, 206, 88-98.	4.2	61
24	Chapter 2 Fluidized bed spray granulation. Handbook of Powder Technology, 2007, , 21-188.	0.1	60
25	A discrete element study of wet particleâ€“particle interaction during granulation in a spout fluidized bed. Canadian Journal of Chemical Engineering, 2009, 87, 308-317.	1.7	59
26	Comparison of fibre optical measurements and discrete element simulations for the study of granulation in a spout fluidized bed. Powder Technology, 2009, 189, 202-217.	4.2	59
27	Multiscale Simulation of Agglomerate Breakage in Fluidized Beds. Industrial & Engineering Chemistry Research, 2013, 52, 11275-11281.	3.7	57
28	Numerical and experimental analysis of influence of granule microstructure on its compression breakage. Powder Technology, 2016, 299, 87-97.	4.2	56
29	A numerical bifurcation analysis of continuous fluidized bed spray granulation with external product classification. Chemical Engineering and Processing: Process Intensification, 2006, 45, 826-837.	3.6	55
30	Comparison of numerical methods for solving population balance equations incorporating aggregation and breakage. Powder Technology, 2009, 189, 218-229.	4.2	55
31	Possibilities and Limits of Computational Fluid Dynamicsâ€“Discrete Element Method Simulations in Process Engineering: A Review of Recent Advancements and Future Trends. Annual Review of Chemical and Biomolecular Engineering, 2020, 11, 397-422.	6.8	55
32	Study of dynamic multi-dimensional temperature and concentration distributions in liquid-sprayed fluidized beds. Chemical Engineering Science, 2003, 58, 5135-5160.	3.8	54
33	A generic population balance model for simultaneous agglomeration and drying in fluidized beds. Chemical Engineering Science, 2007, 62, 513-532.	3.8	54
34	Magnetic monitoring of a single particle in a prismatic spouted bed. Chemical Engineering Science, 2009, 64, 4811-4825.	3.8	53
35	The normal and oblique impact of three types of wet granules. Granular Matter, 2011, 13, 455-463.	2.2	53
36	Novel, highly-filled ceramicâ€“polymer composites synthesized by a spouted bed spray granulation process. Composites Science and Technology, 2014, 90, 154-159.	7.8	51

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37	A new technique to determine rate constants for growth and agglomeration with size- and time-dependent nuclei formation. Chemical Engineering Science, 2006, 61, 282-292.	3.8	50
38	Numerical investigations of a pseudo-2D spout fluidized bed with draft plates using a scaled discrete particle model. Chemical Engineering Science, 2013, 104, 790-807.	3.8	49
39	Fluidized bed spray granulationâ€"A new model for the description of particle wetting and of temperature and concentration distribution. Chemical Engineering and Processing: Process Intensification, 1999, 38, 635-663.	3.6	48
40	Carbon Stripping â€“ A Critical Process Step in Chemical Looping Combustion of Solid Fuels. Chemical Engineering and Technology, 2012, 35, 497-507.	1.5	48
41	Fluidization characteristics of cohesive powders in vibrated fluidized bed drying at low vibration frequencies. Powder Technology, 2019, 357, 54-63.	4.2	48
42	Fluidized bed spray granulation: Analysis of the system behaviour by means of dynamic flowsheet simulation. Powder Technology, 2010, 204, 71-82.	4.2	47
43	Characterization of the pneumatic behavior of a novel spouted bed apparatus with two adjustable gas inlets. Chemical Engineering Science, 2008, 63, 791-814.	3.8	46
44	Novel system for dynamic flowsheet simulation of solids processes. Powder Technology, 2017, 314, 665-679.	4.2	46
45	Photonic glass for high contrast structural color. Scientific Reports, 2018, 8, 7804.	3.3	46
46	A novel method for a multi-level hierarchical composite with brick-and-mortar structure. Scientific Reports, 2013, 3, 2322.	3.3	45
47	Syngas, tar and char behavior in chemical looping gasification of sawdust pellet in fluidized bed. Fuel, 2020, 270, 117464.	6.4	45
48	A novel approach to determine wet restitution coefficients through a unified correlation and energy analysis. AIChE Journal, 2015, 61, 769-779.	3.6	44
49	DEM simulations of amorphous irregular shaped micrometer-sized titania agglomerates at compression. Advanced Powder Technology, 2015, 26, 767-777.	4.1	43
50	Influence of coating and wetting on the mechanical behaviour of highly porous cylindrical aerogel particles. Powder Technology, 2015, 285, 34-43.	4.2	43
51	Investigations on the spouting stability in a prismatic spouted bed and apparatus optimization. Advanced Powder Technology, 2015, 26, 718-733.	4.1	42
52	Direct numerical simulation of particle impact on thin liquid films using a combined volume of fluid and immersed boundary method. Chemical Engineering Science, 2012, 69, 530-540.	3.8	41
53	Particle population modeling in fluidized bed-spray granulationâ€"analysis of the steady state and unsteady behavior. Powder Technology, 2003, 130, 154-161.	4.2	40
54	Experimental study of hydrodynamics and thermal behavior of a pseudoâ€2D spoutâ€fluidized bed with liquid injection. AIChE Journal, 2015, 61, 1146-1159.	3.6	40

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55	Experimental study of oblique impact of particles on wet surfaces. Chemical Engineering Research and Design, 2016, 110, 209-219.	5.6	40
56	CFD-DEM modeling of a three-dimensional prismatic spouted bed. Powder Technology, 2017, 316, 245-255.	4.2	40
57	Moisture Distribution in Fluidized Beds with Liquid Injection. Chemical Engineering and Technology, 2011, 34, 1076-1084.	1.5	39
58	Experimental investigations of a pseudo-2D spout fluidized bed with draft plates. Chemical Engineering Science, 2013, 102, 524-543.	3.8	38
59	Oxidative dehydrogenation of ethane in a fluidized bed membrane reactor. Applied Catalysis A: General, 2005, 296, 176-185.	4.3	37
60	Statistical investigation of agglomerate breakage based on combined stochastic microstructure modeling and DEM simulations. Advanced Powder Technology, 2015, 26, 1021-1030.	4.1	37
61	Simulation of spray coating in a spouted bed using recurrence CFD. Particuology, 2019, 42, 92-103.	3.6	37
62	Collision dynamics of wet solids: Rebound and rotation. Powder Technology, 2017, 316, 218-224.	4.2	35
63	Experimental and numerical investigations of a pseudo-2D spout fluidized bed with draft plates. Powder Technology, 2015, 270, 537-547.	4.2	34
64	Influence of process conditions on the product properties in a continuous fluidized bed spray granulation process. Chemical Engineering Research and Design, 2018, 139, 104-115.	5.6	34
65	Adhesion mechanisms between water soluble particles. Powder Technology, 2013, 238, 35-49.	4.2	32
66	Numerical investigation of collision dynamics of wet particles via force balance. Chemical Engineering Research and Design, 2018, 132, 1143-1159.	5.6	32
67	Synchrotron X-Ray microtomography reveals interior microstructure of multicomponent food materials such as chocolate. Journal of Food Engineering, 2016, 174, 37-46.	5.2	31
68	Multiscale Analysis of a Coating Process in a Wurster Fluidized Bed Apparatus. Advances in Chemical Engineering, 2015, 46, 83-135.	0.9	29
69	Tracking Structural Changes in Lipid-based Multicomponent Food Materials due to Oil Migration by Microfocus Small-Angle X-ray Scattering. ACS Applied Materials & Interfaces, 2015, 7, 9929-9936.	8.0	29
70	Improvement of mechanical properties by a polydopamine interface in highly filled hierarchical composites of titanium dioxide particles and poly(vinyl butyral). Composites Science and Technology, 2017, 146, 73-82.	7.8	29
71	Multiscale Simulation of the Fluidized Bed Granulation Process. Chemical Engineering and Technology, 2012, 35, 1373-1380.	1.5	28
72	CFD-DEM modelling of circulation frequencies and residence times in a prismatic spouted bed. Chemical Engineering Research and Design, 2018, 132, 1105-1116.	5.6	27

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73	Investigating the dynamic behaviour of fluidized bed spray granulation processes applying numerical simulation tools. Chemical Engineering Science, 2005, 60, 3817-3833.	3.8	26
74	The Role of Attrition and Solids Recovery in a Chemical Looping Combustion Process. Oil and Gas Science and Technology, 2011, 66, 277-290.	1.4	25
75	Analysis of a Twoâ€Stage Fuel Reactor System for the Chemicalâ€Looping Combustion of Lignite and Bituminous Coal. Energy Technology, 2016, 4, 1263-1273.	3.8	25
76	Chemical Looping Gasification of a Biomass Pellet with a Manganese Ore as an Oxygen Carrier in the Fluidized Bed. Energy & Fuels, 2018, 32, 11674-11682.	5.1	25
77	Novel ceramicâ€“polymer composites synthesized by compaction of polymer-encapsulated TiO2-nanoparticles. Composites Science and Technology, 2011, 72, 65-71.	7.8	24
78	Development of a multi-compartment population balance model for high-shear wet granulation with discrete element method. Computers and Chemical Engineering, 2017, 99, 171-184.	3.8	24
79	Influence of zone formation on stability of continuous fluidized bed layering granulation with external product classification. Particuology, 2015, 23, 1-7.	3.6	23
80	Chemical looping combustion of high sodium lignite in the fluidized bed: Combustion performance and sodium transfer. International Journal of Greenhouse Gas Control, 2018, 70, 22-31.	4.6	23
81	Measurement of granule layer thickness in a spouted bed coating process via optical coherence tomography. Powder Technology, 2019, 356, 139-147.	4.2	23
82	Predicting the surface composition of a spray-dried particle by modelling component reorganization in a drying droplet. Chemical Engineering Research and Design, 2016, 110, 131-140.	5.6	22
83	Dynamics of wet particleâ€“wall collisions: Influence of wetting condition. Chemical Engineering Research and Design, 2018, 135, 21-29.	5.6	22
84	CFD-DEM Simulation of a Coating Process in a Fluidized Bed Rotor Granulator. Processes, 2020, 8, 1090.	2.8	22
85	Simulation of catalyst loss from an industrial fluidized bed reactor on the basis of labscale attrition tests. Powder Technology, 2011, 214, 21-30.	4.2	21
86	Influence of operation parameters on process stability in continuous fluidised bed layering with external product classification. Powder Technology, 2016, 300, 37-45.	4.2	21
87	Viscoelastic and dielectric properties of composites of poly(vinyl butyral) and alumina particles with a high filling degree. Polymer, 2016, 82, 337-348.	3.8	21
88	Characterization of waxes as possible coating material for organic aerogels. Powder Technology, 2019, 357, 223-231.	4.2	21
89	On the dynamics and control of continuous fluidized bed layering granulation with screen-mill-cycle. Powder Technology, 2019, 354, 765-778.	4.2	21
90	STUDIES OF STEAM DRYING IN A FLUIDIZED BED. Drying Technology, 2002, 20, 175-194.	3.1	20

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91	Influence of particle shape and size on mechanical properties in copper-polymer composites. Powder Technology, 2018, 339, 39-45.	4.2	20
92	Collision dynamics of wet particles: Comparison of literature models to new experiments. Advanced Powder Technology, 2019, 30, 3241-3252.	4.1	20
93	The ultimate goal of modelingâ€"Simulation of system and plant performance. Particuology, 2011, 9, 320-329.	3.6	19
94	Changes in contact angle providing evidence for surface alteration in multi-component solid foods. Journal Physics D: Applied Physics, 2015, 48, 464001.	2.8	19
95	Using dilute spouting for fabrication of highly filled metal-polymer composite materials. Powder Technology, 2017, 316, 426-433.	4.2	19
96	A dynamic two-zone model of continuous fluidized bed layering granulation with internal product classification. Particuology, 2017, 31, 8-14.	3.6	19
97	Particle dynamics in a multi-staged fluidized bed: Particle transport behavior on micro-scale by discrete particle modelling. Advanced Powder Technology, 2019, 30, 2014-2031.	4.1	19
98	An improved discretized tracer mass distribution of Hounslow et al.. AICHE Journal, 2006, 52, 1326-1332.	3.6	18
99	Bonded-particle extraction and stochastic modeling of internal agglomerate structures. Advanced Powder Technology, 2016, 27, 1761-1774.	4.1	18
100	Discrete element simulation of metal ceramic composite materials with varying metal content. Journal of the European Ceramic Society, 2016, 36, 2245-2253.	5.7	18
101	Influence of gas inflow modelling on CFD-DEM simulations of three-dimensional prismatic spouted beds. Powder Technology, 2018, 329, 167-180.	4.2	18
102	Dynamic flowsheet simulation for chemical looping combustion of methane. International Journal of Greenhouse Gas Control, 2018, 72, 26-37.	4.6	18
103	Flowsheet simulation of solids processes: Current status and future trends. Advanced Powder Technology, 2020, 31, 947-953.	4.1	18
104	Unsteady and steady-state particle size distributions in batch and continuous fluidized bed granulation systems. Chemical Engineering Journal, 2002, 86, 223-231.	12.7	17
105	Micro-Macro Breakage Behavior of Elastic-Plastic Granulates by Compression. Chemical Engineering and Technology, 2005, 28, 623-629.	1.5	17
106	Towards a Complete Population Balance Model for Fluidized-Bed Spray Agglomeration. Drying Technology, 2007, 25, 1321-1329.	3.1	17
107	Discrete Element Study of Aerogel Particle Dynamics in a Spouted Bed Apparatus. Chemical Engineering and Technology, 2012, 35, 1427-1434.	1.5	17
108	Modeling and flowsheet simulation of continuous fluidized bed dryers. Powder Technology, 2013, 238, 132-141.	4.2	17

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109	Three-dimensional discrete element modeling of micromechanical bending tests of ceramicâ€“polymer composite materials. Powder Technology, 2013, 248, 77-83.	4.2	17
110	Contact models based on experimental characterization of irregular shaped, micrometer-sized particles. Granular Matter, 2014, 16, 313-326.	2.2	17
111	Dynamics and long-time behavior of gasâ€“solid flows on recurrent-transient backgrounds. Chemical Engineering Journal, 2019, 364, 562-577.	12.7	17
112	Unresolved CFD-DEM simulation of spherical and ellipsoidal particles in conical and prismatic spouted beds. Powder Technology, 2021, 389, 493-506.	4.2	17
113	Fluidized bed spray granulation: analysis of heat and mass transfers and dynamic particle populations. Brazilian Journal of Chemical Engineering, 2005, 22, 181-194.	1.3	16
114	Modeling of the Spray Zone for Particle Wetting in a Fluidized Bed. Chemie-Ingenieur-Technik, 2013, 85, 280-289.	0.8	16
115	Fluidizedâ€Bed Reactorsâ€‰â€“â€‰Status and Some Development Perspectives. Chemie-Ingenieur-Technik, 2014, 86, 2022-2038.	0.8	16
116	A discretized model for tracer population balance equation: Improved accuracy and convergence. Computers and Chemical Engineering, 2006, 30, 1278-1292.	3.8	15
117	Discrete Particle Simulation Study on the Influence of the Restitution Coefficient on Spout Fluidized-Bed Dynamics. Chemical Engineering and Technology, 2009, 32, 454-462.	1.5	15
118	A weighted finite volume scheme for multivariate aggregation population balance equation. Computers and Chemical Engineering, 2017, 101, 1-10.	3.8	15
119	CFD modeling of a prismatic spouted bed with two adjustable gas inlets. Canadian Journal of Chemical Engineering, 2009, 87, 318-328.	1.7	14
120	Attritor-milling of poly(amide imide) suspensions. Particuology, 2014, 17, 92-96.	3.6	14
121	Interfaceâ€resolved simulations of normal collisions of spheres on a wet surface. AICHE Journal, 2017, 63, 4774-4787.	3.6	14
122	Dyssolâ€”An open-source flowsheet simulation framework for particulate materials. SoftwareX, 2020, 12, 100572.	2.6	14
123	MP-PIC simulation of circulating fluidized beds using an EMMS based drag model for Geldart B particles. Particuology, 2021, 59, 76-90.	3.6	14
124	Hydrodynamics of shallow fluidized bed of coarse particles. Chemical Engineering Journal, 2005, 114, 47-54.	12.7	13
125	Parameter Estimation for the Flowsheet Simulation of Solids Processes. Chemie-Ingenieur-Technik, 2014, 86, 1073-1079.	0.8	13
126	Product design based on discrete particle modeling of a fluidized bed granulator. Particuology, 2014, 12, 13-24.	3.6	13

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127	Combined viscoelastic and elastic wave dissipation mechanism at low velocity impact. Advanced Powder Technology, 2016, 27, 1244-1250.	4.1	13
128	Impact of hydrophobic surfaces on capillary wetting. Powder Technology, 2018, 328, 367-374.	4.2	13
129	Application of micro computed tomography for adjustment of model parameters for discrete element method. Chemical Engineering Research and Design, 2018, 135, 121-128.	5.6	13
130	Gasification kinetics of lignite char in a fluidized bed of reactive oxygen carrier particles. Fuel, 2019, 236, 166-178.	6.4	13
131	Numerical simulation of temperature and concentration distributions in fluidized beds with liquid injection. Chemical Engineering Science, 2007, 62, 1567-1590.	3.8	12
132	Using DPM on the Way to Tailored Prismatic Spouted Beds. Chemie-Ingenieur-Technik, 2012, 84, 388-394.	0.8	12
133	Novel technique for measurement of coating layer thickness of fine and porous particles using focused ion beam. Particuology, 2019, 42, 190-198.	3.6	12
134	On the Approximate Solution and Modeling of the Kernel of Nonlinear Breakage Population Balance Equation. SIAM Journal of Scientific Computing, 2020, 42, B1570-B1598.	2.8	12
135	Modelling of the batch treatment of wet granular solids with superheated steam in fluidized beds. Chemical Engineering and Processing: Process Intensification, 1999, 38, 131-142.	3.6	11
136	Modeling of aggregation kernels for fluidized beds using discrete particle model simulations. Particuology, 2014, 13, 134-144.	3.6	11
137	Sintering Simulation of Periodic Macro Porous Alumina. Journal of the American Ceramic Society, 2015, 98, 3496-3502.	3.8	11
138	Characterisation of lactose powder and granules for multivariate wet granulation modelling. Chemical Engineering Science, 2015, 123, 395-405.	3.8	11
139	Dependencies between internal structure and mechanical properties of spray dried granules â€“ Experimental study and DEM simulation. Advanced Powder Technology, 2017, 28, 185-196.	4.1	11
140	Investigation of an FFT-based solver applied to dynamic flowsheet simulation of agglomeration processes. Advanced Powder Technology, 2019, 30, 555-564.	4.1	11
141	Recent Advances in Fluidized Bed Hydrodynamics and Transport Phenomenaâ€”Progress and Understanding. Processes, 2021, 9, 639.	2.8	11
142	Minimizing gas leakages in a system of coupled fluidized bed reactors for chemical looping combustion. Chemical Engineering Science, 2022, 250, 117366.	3.8	11
143	Fluidized Bed Air Drying: Experimental Study and Model Development. Canadian Journal of Chemical Engineering, 2003, 81, 176-184.	1.7	10
144	Dynamic flowsheet simulation of gas and solids flows in a system of coupled fluidized bed reactors for chemical looping combustion. Powder Technology, 2017, 316, 628-640.	4.2	10

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145	Compartmental residence time estimation in batch granulators using a colourimetric image analysis algorithm and Discrete Element Modelling. Advanced Powder Technology, 2017, 28, 2239-2255.	4.1	10
146	Influence of binary and ternary particle systems on the spouting stability in a three-dimensional prismatic spouted bed. Powder Technology, 2019, 357, 305-312.	4.2	10
147	Contact Behavior of Microcrystalline Cellulose Pellets Depending on their Water Content. Chemical Engineering and Technology, 2020, 43, 887-895.	1.5	10
148	Spray coating of cellulose aerogel particles in a miniaturized spouted bed. Cellulose, 2021, 28, 7795-7812.	4.9	10
149	Description of the Temperature, Humidity, and Concentration Distribution in Gas-Liquid-Solid Fluidized Beds. Chemical Engineering and Technology, 1999, 22, 118-122.	1.5	9
150	Influence of Feed Composition and Drying Parameters on the Surface Composition of a Spray-Dried Multicomponent Particle. Drying Technology, 2015, 33, 1911-1919.	3.1	9
151	Bubble Properties in Bubbling and Turbulent Fluidized Beds for Particles of Geldartâ€™s Group B. Processes, 2020, 8, 1098.	2.8	9
152	Influences on the transition from bubbling to turbulent fluidization for Geldart's group B particles. Powder Technology, 2020, 375, 81-88.	4.2	9
153	Novel approach for measurement of restitution coefficient by magnetic particle tracking. Advanced Powder Technology, 2022, 33, 103362.	4.1	9
154	Decay Behavior of Particles in a Fluidized Bed â€“ Application of a Mass-Related Attrition Coefficient. Chemical Engineering and Technology, 2002, 25, 639.	1.5	8
155	ThreeâEDimensional Computational Fluid Dynamics Modeling of a Prismatic Spouted Bed. Chemical Engineering and Technology, 2009, 32, 470-481.	1.5	8
156	The Oblique Impact of Three Different Types of Granules. Chemie-Ingenieur-Technik, 2011, 83, 612-617.	0.8	8
157	Modification of the mechanical granule properties via internal structure. Powder Technology, 2014, 258, 252-264.	4.2	8
158	Simulation-based investigation of core-shell agglomerates: Influence of spatial heterogeneity in particle sizes on breakage characteristics. Computational Materials Science, 2017, 137, 100-106.	3.0	8
159	Application of Transformation Matrices to the Solution of Population Balance Equations. Processes, 2019, 7, 535.	2.8	8
160	Toward Multiscale Modeling of Proteins and Bioagglomerates: An Orientation-Sensitive Diffusion Model for the Integration of Molecular Dynamics and the Discrete Element Method. Journal of Chemical Information and Modeling, 2019, 59, 386-398.	5.4	8
161	Material specific drying kinetics in fluidized bed drying under mechanical vibration using the reaction engineering approach. Advanced Powder Technology, 2020, 31, 4699-4713.	4.1	8
162	DEM-Based Approach for the Modeling of Gelation and Its Application to Alginate. Journal of Chemical Information and Modeling, 2022, 62, 49-70.	5.4	8

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163	Pulsed Multiphase Flowsâ€"Numerical Investigation of Particle Dynamics in Pulsating Gasâ€"Solid Flows at Elevated Temperatures. Processes, 2020, 8, 815.	2.8	7
164	Increasing the efficiency of chemical looping combustion of biomass by a dual-stage fuel reactor design to reduce carbon capture costs. Mitigation and Adaptation Strategies for Global Change, 2020, 25, 969-986.	2.1	7
165	Influence of pores arrangement on stability of photonic structures during sintering. Journal of the European Ceramic Society, 2020, 40, 4562-4571.	5.7	7
166	Ermittlung der normalen und tangentialen StoÃŸzahl von Granulaten. Chemie-Ingenieur-Technik, 2011, 83, 638-642.	0.8	6
167	Influence of mill characteristics on stability of continuous layering granulation with external product classification. Computer Aided Chemical Engineering, 2016, 38, 1275-1280.	0.5	6
168	Copula-based approximation of particle breakage as link between DEM and PBM. Computers and Chemical Engineering, 2017, 99, 158-170.	3.8	6
169	On the approximate solutions of fragmentation equations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20170541.	2.1	6
170	Novel production method of tracer particles for residence time measurements in gas-solid processes. Powder Technology, 2018, 338, 1-6.	4.2	6
171	Measurement of Residence Time Distributions in a Continuously Operated Spouted Bed. Chemical Engineering and Technology, 2020, 43, 804-812.	1.5	6
172	Mechanical strength evolution of biomass pellet during chemical looping gasification in fluidized bed. Fuel Processing Technology, 2021, 221, 106951.	7.2	6
173	Three-dimensional numerical study of heat and mass transfer in fluidized beds with spray nozzle. Computers and Chemical Engineering, 2008, 32, 2877-2890.	3.8	5
174	A volume-consistent discrete formulation of particle breakage equation. Computers and Chemical Engineering, 2017, 97, 147-160.	3.8	5
175	Characterizing devolatilized wood pellets for fluidized bed applications. Biomass Conversion and Biorefinery, 0, , 1.	4.6	5
176	Influence of Freezing Parameters on the Formation of Internal Porous Structure and Its Impact on Freeze-Drying Kinetics. Processes, 2021, 9, 1273.	2.8	5
177	Correlating Granule Surface Structure Morphology and Process Conditions in Fluidized Bed Layering Spray Granulation. KONA Powder and Particle Journal, 2022, 39, 230-239.	1.7	5
178	An experimental study of the partial oxidation of ethane to ethylene in a shallow fluidized bed reactor. Journal of the Serbian Chemical Society, 2007, 72, 183-192.	0.8	5
179	CFD-aided population balance modeling of a spray drying process. Advanced Powder Technology, 2022, 33, 103636.	4.1	5
180	Product-Property Guided Scale-Up of a Fluidized Bed Spray Granulation Process Using the CFD-DEM Method. Processes, 2022, 10, 1291.	2.8	5

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181	NON-STATIONARY DRYING KINETICS IN A BATCH PHARMACEUTICAL FLUIDIZED BED COATING PROCESS. Drying Technology, 2000, 18, 2065-2090.	3.1	4
182	New Developments in Fluidization Technology. Chemical Engineering and Technology, 2009, 32, 337-337.	1.5	4
183	3D modeling and Computational Fluid Dynamics simulations of surface-attached CHO-K1 cells going to detach from a microchannel wall. Powder Technology, 2013, 237, 529-536.	4.2	4
184	Particle dynamics in the fluidized bed: Magnetic particle tracking and discrete particle modelling. AIP Conference Proceedings, 2013, , .	0.4	4
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