Daniel J Holland

List of Publications by Year
in descending order

101 papers	3,676 citations	159585 30 h-index	144013 57 g-index
106 all docs	106 docs citations	106 times ranked	3431 citing authors

#	Article	IF	Citations
1	Three-dimensional imaging of localized surface plasmon resonances of metal nanoparticles. Nature, 2013, 502, 80-84.	27.8	450
2	Compressed sensing electron tomography. Ultramicroscopy, 2013, 131, 70-91.	1.9	247
3	Fast Multidimensional NMR Spectroscopy Using Compressed Sensing. Angewandte Chemie - International Edition, 2011, 50, 6548-6551.	13.8	241
4	Granular temperature: Comparison of Magnetic Resonance measurements with Discrete Element Model simulations. Powder Technology, 2008, 184, 241-253.	4.2	166
5	Three-Dimensional Morphology of Iron Oxide Nanoparticles with Reactive Concave Surfaces. A Compressed Sensing-Electron Tomography (CS-ET) Approach. Nano Letters, 2011, 11, 4666-4673.	9.1	148
6	Magnetic resonance imaging in laboratory petrophysical core analysis. Physics Reports, 2013, 526, 165-225.	25.6	141
7	Validation of a discrete element model using magnetic resonance measurements. Particuology, 2009, 7, 297-306.	3.6	105
8	Reducing data acquisition times in phase-encoded velocity imaging using compressed sensing. Journal of Magnetic Resonance, 2010, 203, 236-246.	2.1	93
9	Investigation of Void Fraction Schemes for Use with CFD-DEM Simulations of Fluidized Beds. Industrial & Engineering Chemistry Research, 2018, 57, 3002-3013.	3.7	91
10	Magnetic resonance velocity imaging of liquid and gas two-phase flow in packed beds. Journal of Magnetic Resonance, 2009, 196, 142-148.	2.1	82
11	Magnetic Resonance Imaging of fluidized beds. Powder Technology, 2008, 183, 53-62.	4.2	79
12	The nature of the flow just above the perforated plate distributor of a gas-fluidised bed, as imaged using magnetic resonance. Chemical Engineering Science, 2006, 61, 6002-6015.	3.8	72
13	Spatially resolved measurement of anisotropic granular temperature in gas-fluidized beds. Powder Technology, 2008, 182, 171-181.	4.2	70
14	Exploring the Origins of Turbulence in Multiphase Flow Using Compressed Sensing MRI. Physical Review Letters, 2012, 108, 264505.	7.8	57
15	Compressed sensing reconstruction of undersampled 3D NOESY spectra: application to large membrane proteins. Journal of Biomolecular NMR, 2012, 54, 15-32.	2.8	51
16	Phase reconstruction from velocity-encoded MRI measurements â€“ A survey of sparsity-promoting variational approaches. Journal of Magnetic Resonance, 2014, 238, 26-43.	2.1	51
17	Measurement of bubble sizes in fluidised beds using electrical capacitance tomography. Chemical Engineering Science, 2015, 126, 679-687.	3.8	51
18	Fast and robust 3D electrical capacitance tomography. Measurement Science and Technology, 2013, 24, 105406.	2.6	46

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19	Comparison of ECVT and MR Measurements of Voidage in a Gas-Fluidized Bed. Industrial & Engineering Chemistry Research, 2009, 48, 172-181.	3.7	43
20	MRI: Operando measurements of temperature, hydrodynamics and local reaction rate in a heterogeneous catalytic reactor. Catalysis Today, 2010, 155, 157-163.	4.4	41
21	Applications of ultra-fast MRI to high voidage bubbly flow: Measurement of bubble size distributions, interfacial area and hydrodynamics. Chemical Engineering Science, 2012, 71, 468-483.	3.8	41
22	Rapid two-dimensional imaging of bubbles and slugs in a three-dimensional, gas-solid, two-phase flow system using ultrafast magnetic resonance. Physical Review E, 2007, 75, 020302.	2.1	40
23	A study of the mixing of solids in gas-fluidized beds, using ultra-fast MRI. Chemical Engineering Science, 2005, 60, 2085-2088.	3.8	38
24	Determining NMR flow propagator moments in porous rocks without the influence of relaxation. Journal of Magnetic Resonance, 2008, 193, 218-225.	2.1	36
25	Oscillations in gas-fluidized beds: Ultra-fast magnetic resonance imaging and pressure sensor measurements. Powder Technology, 2007, 177, 87-98.	4.2	35
26	In situ study of reaction kinetics using compressed sensing NMR. Chemical Communications, 2014, 50, 14137-14140.	4.1	35
27	Compressed sensing reconstruction improves sensitivity of variable density spiral fMRI. Magnetic Resonance in Medicine, 2013, 70, 1634-1643.	3.0	34
28	Rise velocities of bubbles and slugs in gas-fluidised beds: Ultra-fast magnetic resonance imaging. Chemical Engineering Science, 2007, 62, 82-93.	3.8	32
29	Time resolved velocity measurements of unsteady systems using spiral imaging. Journal of Magnetic Resonance, 2011, 211, 1-10.	2.1	32
30	A comparison of magnetic resonance imaging and electrical capacitance tomography: An air jet through a bed of particles. Powder Technology, 2012, 227, 86-95.	4.2	32
31	Less is More: How Compressed Sensing is Transforming Metrology in Chemistry. Angewandte Chemie - International Edition, 2014, 53, 13330-13340.	13.8	31
32	Applications of fast diffusion measurement using Difftrain. Journal of Magnetic Resonance, 2003, 161, 112-117.	2.1	29
33	Spatially resolved quantification of metal ion concentration in a biofilmâ€mediated ion exchanger. Biotechnology and Bioengineering, 2008, 99, 821-829.	3.3	28
34	A new approach to the investigation of nanoparticles: Electron tomography with compressed sensing. Journal of Colloid and Interface Science, 2013, 392, 7-14.	9.4	28
35	Geometrical and hydrodynamical study of gas jets in packed and fluidized beds using magnetic resonance. Canadian Journal of Chemical Engineering, 2009, 87, 517-525.	1.7	27
36	A Bayesian approach to characterising multi-phase flows using magnetic resonance: Application to bubble flows. Journal of Magnetic Resonance, 2011, 209, 83-87.	2.1	27

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37	A comparison of magnetic resonance, X-ray and positron emission particle tracking measurements of a single jet of gas entering a bed of particles. Chemical Engineering Science, 2015, 122, 210-218.	3.8	27
38	Limitations on Fluid Grid Sizing for Using Volume-Averaged Fluid Equations in Discrete Element Models of Fluidized Beds. Industrial & Engineering Chemistry Research, 2015, 54, 10684-10697.	3.7	26
39	A field-invariant method for quantitative analysis with benchtop NMR. Journal of Magnetic Resonance, 2019, 298, 35-47.	2.1	25
40	Dynamic Mr Imaging of Single- and Two-Phase Flows. Chemical Engineering Research and Design, 2006, 84, 272-281.	5.6	24
41	Adapting Data Processing To Compare Model and Experiment Accurately: A Discrete Element Model and Magnetic Resonance Measurements of a 3D Cylindrical Fluidized Bed. Industrial & Engineering Chemistry Research, 2013, 52, 18085-18094.	3.7	24
42	Optimizing the Geometry of Three-Dimensional Electrical Capacitance Tomography Sensors. IEEE Sensors Journal, 2015, 15, 1567-1574.	4.7	24
43	Ultrashort echo time (UTE) imaging using gradient pre-equalization and compressed sensing. Journal of Magnetic Resonance, 2014, 245, 116-124.	2.1	23
44	Magnetic Resonance Studies of Fluidization Regimes. Industrial & Engineering Chemistry Research, 2010, 49, 5891-5899.	3.7	22
45	An experimental validation of a Bayesian model for quantification in NMR spectroscopy. Journal of Magnetic Resonance, 2017, 285, 86-100.	2.1	22
46	Magnetic resonance studies of a gasâ€“solids fluidised bed: Jetâ€“jet and jetâ€“wall interactions. Particuology, 2010, 8, 617-622.	3.6	20
47	The origin of pressure oscillations in slugging fluidized beds: Comparison of experimental results from magnetic resonance imaging with a discrete element model. Chemical Engineering Science, 2014, 116, 611-622.	3.8	19
48	Investigation of a swirling flow nozzle for a fluidised bed gas distributor. Chemical Engineering Science, 2015, 132, 22-31.	3.8	19
49	Effective particle diameters for simulating fluidization of nonâ€spherical particles: CFDâ€DEM models vs. MRI measurements. AICHE Journal, 2017, 63, 2555-2568.	3.6	19
50	A Non-Linear Reweighted Total Variation Image Reconstruction Algorithm for Electrical Capacitance Tomography. IEEE Sensors Journal, 2018, 18, 5049-5057.	4.7	19
51	Bubble size measurement using Bayesian magnetic resonance. Chemical Engineering Science, 2012, 84, 735-745.	3.8	18
52	Grain Sizing in Porous Media using Bayesian Magnetic Resonance. Physical Review Letters, 2013, 110, 018001.	7.8	18
53	Quantifying silo flow using MRI velocimetry for testing granular flow models. Physical Review Fluids, 2019, 4, .	2.5	18
54	Magnetic resonance studies of jets in a gasâ€“solid fluidised bed. Particuology, 2012, 10, 161-169.	3.6	17

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55	Novel fluid grid and voidage calculation techniques for a discrete element model of a 3D cylindrical fluidized bed. Computers and Chemical Engineering, 2014, 65, 18-27.	3.8	17
56	Measurement of an oilâ€“water flow using magnetic resonance imaging. Flow Measurement and Instrumentation, 2017, 53, 161-171.	2.0	17
57	Impact on the Polyester Value Chain of Using p-Xylene Derived from Biomass. ACS Sustainable Chemistry and Engineering, 2017, 5, 4119-4126.	6.7	17
58	Synthesis and characterisation of polyurethane made from pyrolysis bio-oil of pine wood. European Polymer Journal, 2020, 133, 109725.	5.4	16
59	Influence of contact parameters on Discrete Element method (DEM) simulations of flow from a hopper: Comparison with magnetic resonance imaging (MRI) measurements. Powder Technology, 2020, 372, 671-684.	4.2	16
60	Quantifying transport within a porous medium over a hierarchy of length scales. Physics of Fluids, 2006, 18, 033102.	4.0	15
61	Bayesian approach for automated quantitative analysis of benchtop NMR data. Journal of Magnetic Resonance, 2020, 319, 106814.	2.1	15
62	Study of bubble dynamics in gas-solid fluidized beds using ultrashort echo time (UTE) magnetic resonance imaging (MRI). Chemical Engineering Science, 2017, 172, 476-486.	3.8	14
63	A comparison of nonâ€uniform sampling and modelâ€based analysis of NMR spectra for reaction monitoring. Magnetic Resonance in Chemistry, 2021, 59, 221-236.	1.9	14
64	Enhanced 13C PFG NMR for the study of hydrodynamic dispersion in porous media. Journal of Magnetic Resonance, 2007, 186, 160-165.	2.1	13
65	Magnetic resonance imaging of fluidized beds: Recent advances. Theoretical Foundations of Chemical Engineering, 2008, 42, 469-478.	0.7	13
66	Spatially and chemically resolved measurement of intra- and inter-particle molecular diffusion in a fixed-bed reactor. Applied Catalysis A: General, 2011, 392, 192-198.	4.3	13
67	Development of ultrafast UTE imaging for granular systems. Journal of Magnetic Resonance, 2016, 273, 113-123.	2.1	13
68	Improving resolution in multidimensional NMR using random quadrature detection with compressed sensing reconstruction. Journal of Biomolecular NMR, 2017, 68, 67-77.	2.8	13
69	Quantitative magnetic resonance imaging of urea and lysozyme in protein chromatography. Journal of Chromatography A, 2004, 1033, 311-319.	3.7	12
70	Magnetic resonance measurements of high-velocity particle motion in a three-dimensional gas-solid spouted bed. Physical Review E, 2010, 82, 050302.	2.1	11
71	Total variation image reconstruction for electrical capacitance tomography. , 2012, , .		11
72	Multi-scale magnetic resonance measurements and validation of Discrete Element Model simulations. Particuology, 2011, 9, 330-341.	3.6	10

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73	11-interval PFG pulse sequence for improved measurement of fast velocities of fluids with high diffusivity in systems with short T2â^—. Journal of Magnetic Resonance, 2016, 265, 67-76.	2.1	10
74	Quantitative analysis using external standards with a benchtop NMR spectrometer. Journal of Magnetic Resonance, 2020, 320, 106826.	2.1	10
75	Time-of-flight variant to image mixing of granular media in a 3D fluidized bed. Journal of Magnetic Resonance, 2007, 187, 199-204.	2.1	9
76	Extending the use of Earthâ€™s Field NMR using Bayesian methodology: Application to particle sizing. Journal of Magnetic Resonance, 2012, 222, 44-52.	2.1	9
77	Ultrafast magnetic-resonance-imaging velocimetry of liquid-liquid systems: Overcoming chemical-shift artifacts using compressed sensing. Physical Review E, 2014, 89, 063009.	2.1	9
78	Quantitative analysis of wine and other fermented beverages with benchtop NMR. Analytica Chimica Acta, 2021, 1182, 338944.	5.4	9
79	Quantitative mapping of chemical compositions with MRI using compressed sensing. Journal of Magnetic Resonance, 2015, 261, 27-37.	2.1	8
80	Examination of the microscopic definition for granular fluidity. Physical Review Fluids, 2021, 6, .	2.5	8
81	Quantitative measurements of flow dynamics in 3D hoppers using MRI. Powder Technology, 2021, 392, 69-80.	4.2	8
82	Improving the accuracy of model-based quantitative nuclear magnetic resonance. Magnetic Resonance, 2020, 1, 141-153.	1.9	8
83	Investigation of drag models for the two fluid simulation of Geldart group A powders. Powder Technology, 2016, 304, 41-54.	4.2	7
84	Measurements of the velocity distribution for granular flow in a Couette cell. Physical Review E, 2018, 98, .	2.1	7
85	Sensitivity of chemical-looping combustion to particle reaction kinetics. Chemical Engineering Science, 2016, 152, 21-25.	3.8	5
86	Properties of stationary (bubbling) fluidised beds relevant to combustion and gasification systems. , 2013, , 77-148e.		4
87	Investigation of Two-fluid Models of Fluidisation Using Magnetic Resonance and Discrete Element Simulations. Procedia Engineering, 2015, 102, 1436-1445.	1.2	4
88	Magnetic resonance imaging of gas dynamics in the freeboard of fixed beds and bubbling fluidized beds. Chemical Engineering Science, 2016, 147, 13-20.	3.8	4
89	On the influence of rotational motion on MRI velocimetry of granular flows â€“ Theoretical predictions and comparison to experimental data. Journal of Magnetic Resonance, 2019, 307, 106569.	2.1	4
90	Quantitative measurement of solid fraction in a silo using SPRITE. Journal of Magnetic Resonance, 2021, 325, 106935.	2.1	4

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91	A comparison of models of linear collisions between spherical particles in the pendular regime. Powder Technology, 2022, 398, 117112.	4.2	4
92	Quantification of mixtures of analogues of illicit substances by benchtop NMR spectroscopy. Journal of Magnetic Resonance, 2022, 335, 107138.	2.1	4
93	Quantitative frother analysis on coal mine process water with a benchtop NMR spectrometer. Journal of Magnetic Resonance, 2021, 331, 107054.	2.1	3
94	Time-domain signal modelling in multidimensional NMR experiments for estimation of relaxation parameters. Journal of Biomolecular NMR, 2019, 73, 93-104.	2.8	2
95	Multiphase flow and mixing quantification using computational fluid dynamics and magnetic resonance imaging. Flow Measurement and Instrumentation, 2021, 77, 101816.	2.0	2
96	Sparse recovery of complex phase-encoded velocity images using iterative thresholding. , 2013, , .		1
97	Frother concentration measurement with a benchtop NMR spectrometer. Minerals Engineering, 2022, 180, 107512.	4.3	1
98	Improving Accuracy and Speed of NMR Flow Propagators Measurements in Permeable Rocks. , 2008, , .		0
99	An investigation of collisions of liquid coated particles. EPJ Web of Conferences, 2021, 249, 08002.	0.3	0
100	Quantitative measurement of hopper flow using MRI. EPJ Web of Conferences, 2021, 249, 03006.	0.3	0
101	Applications of tomography in bubble column and fixed bed reactors. , 2022, , 729-771.		0