

Adrian P Sheppard

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2294887/publications.pdf>

Version: 2024-02-01

129
papers

7,629
citations

61857

43
h-index

53109

85
g-index

130
all docs

130
docs citations

130
times ranked

6435
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral information from photon statistics in x-ray radiography and computed tomography. <i>Physical Review A</i> , 2022, 106, .	1.0	0
2	Effect of Saturation and Image Resolution on Representative Elementary Volume and Topological Quantification: An Experimental Study on Bentheimer Sandstone Using Micro-CT. <i>Transport in Porous Media</i> , 2021, 137, 489-518.	1.2	13
3	Density estimation in XCT using the Alvarez-Macovski model. , 2021, , .		0
4	PI-Line Difference for Alignment and Motion-Correction of Cone-Beam Helical-Trajectory Micro-Tomography Data. <i>IEEE Transactions on Computational Imaging</i> , 2020, 6, 24-33.	2.6	4
5	Digital core analysis: Characterizing reservoir quality through thin sandstone layers in heterolithic rocks. <i>Journal of Applied Geophysics</i> , 2020, 182, 104178.	0.9	4
6	An adaptive volumetric flux boundary condition for lattice Boltzmann methods. <i>Computers and Fluids</i> , 2020, 210, 104670.	1.3	4
7	Techniques for high-fidelity X-ray micro-tomography of additively manufactured metal components. <i>Nondestructive Testing and Evaluation</i> , 2020, 35, 241-251.	1.1	1
8	Digital core analysis: Improved connectivity and permeability characterization of thin sandstone layers in heterolithic rocks. <i>Marine and Petroleum Geology</i> , 2020, 120, 104549.	1.5	14
9	Discretization limits of lattice Boltzmann methods for studying immiscible two-phase flow in porous media. <i>International Journal for Numerical Methods in Fluids</i> , 2020, 92, 1162-1197.	0.9	4
10	X-ray attenuation models to account for beam hardening in computed tomography. <i>Applied Optics</i> , 2020, 59, 9126.	0.9	6
11	Topological Persistence for Relating Microstructure and Capillary Fluid Trapping in Sandstones. <i>Water Resources Research</i> , 2019, 55, 555-573.	1.7	43
12	Time-Lapsed Visualization and Characterization of Shale Diffusion Properties Using 4D X-ray Microcomputed Tomography. <i>Energy & Fuels</i> , 2018, 32, 2889-2900.	2.5	23
13	Geometric Alignment Of Cone-Beam Helical-Trajectory Micro-Tomography Data Using a PI-Line Difference Metric. <i>Microscopy and Microanalysis</i> , 2018, 24, 150-151.	0.2	2
14	Imaging Mean Energy of X-ray Spectra through Intensity Variation in Radiographs with an Example Application to Beam Hardening Correction.. <i>Microscopy and Microanalysis</i> , 2018, 24, 112-113.	0.2	1
15	Space-Filling X-Ray Source Trajectories for Efficient Scanning in Large-Angle Cone-Beam Computed Tomography. <i>IEEE Transactions on Computational Imaging</i> , 2018, 4, 447-458.	2.6	45
16	Linear iterative near-field phase retrieval (LIPR) for dual-energy x-ray imaging and material discrimination. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2018, 35, A30.	0.8	11
17	Observations of nonwetting phase snap-off during drainage. <i>Advances in Water Resources</i> , 2018, 121, 32-43.	1.7	25
18	Reprojection Alignment for Trajectory Perturbation Estimation in Microtomography. <i>IEEE Transactions on Computational Imaging</i> , 2018, 4, 271-283.	2.6	16

#	ARTICLE	IF	CITATIONS
19	Flow rate impacts on capillary pressure and interface curvature of connected and disconnected fluid phases during multiphase flow in sandstone. <i>Advances in Water Resources</i> , 2017, 107, 460-469.	1.7	45
20	Local diffusion coefficient measurements in shale using dynamic micro-computed tomography. <i>Fuel</i> , 2017, 207, 312-322.	3.4	35
21	High cone-angle x-ray computed micro-tomography with 186 GigaVoxel datasets. , 2016, , .		3
22	Impact of wettability alteration on 3D nonwetting phase trapping and transport. <i>International Journal of Greenhouse Gas Control</i> , 2016, 46, 175-186.	2.3	54
23	Percolating length scales from topological persistence analysis of micro-CT images of porous materials. <i>Water Resources Research</i> , 2016, 52, 315-329.	1.7	45
24	Mapping permeability in low-resolution micro-CT images: A multiscale statistical approach. <i>Water Resources Research</i> , 2016, 52, 4377-4398.	1.7	19
25	Rapidly converging multigrid reconstruction of cone-beam tomographic data. <i>Proceedings of SPIE</i> , 2016, , .	0.8	9
26	Multi-resolution radiograph alignment for motion correction in x-ray micro-tomography. , 2016, , .		20
27	Optimized x-ray source scanning trajectories for iterative reconstruction in high cone-angle tomography. <i>Proceedings of SPIE</i> , 2016, , .	0.8	2
28	Dynamic Micro-CT Imaging of Diffusion in Unconventionals. , 2015, , .		5
29	3D X-Ray Source Deblurring in High Cone-Angle Micro-CT. <i>IEEE Transactions on Nuclear Science</i> , 2015, 62, 2075-2084.	1.2	7
30	Efficiently engineering pore-scale processes: The role of force dominance and topology during nonwetting phase trapping in porous media. <i>Advances in Water Resources</i> , 2015, 79, 91-102.	1.7	84
31	A statistical analysis of the effects of pressure, temperature and salinity on contact angles in CO ₂ brine-quartz systems. <i>International Journal of Greenhouse Gas Control</i> , 2015, 42, 516-524.	2.3	15
32	Bayesian approach to time-resolved tomography. <i>Optics Express</i> , 2015, 23, 20062.	1.7	8
33	Imaged-based multiscale network modelling of microporosity in carbonates. <i>Geological Society Special Publication</i> , 2015, 406, 95-113.	0.8	54
34	Skeletonization and Partitioning of Digital Images Using Discrete Morse Theory. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2015, 37, 654-666.	9.7	100
35	Morse theory and persistent homology for topological analysis of 3D images of complex materials. , 2014, , .		12
36	Improving dynamic tomography, through Maximum a posteriori estimation. <i>Proceedings of SPIE</i> , 2014, , .	0.8	3

#	ARTICLE	IF	CITATIONS
37	Dual-energy iterative reconstruction for material characterisation. Proceedings of SPIE, 2014, , .	0.8	1
38	Iterative reconstruction optimisations for high angle cone-beam micro-CT. Proceedings of SPIE, 2014, , .	0.8	0
39	Correction of beam hardening artefacts in microtomography for samples imaged in containers. , 2014, , .		0
40	Improving spatial-resolution in high cone-angle micro-CT by source deblurring. , 2014, , .		1
41	The effects of manufacturing parameters on geometrical and mechanical properties of copper foams produced by space holder technique. Materials & Design, 2014, 53, 681-690.	5.1	44
42	On the challenges of measuring interfacial characteristics of three-phase fluid flow with x-ray microtomography. Journal of Microscopy, 2014, 253, 171-182.	0.8	38
43	Techniques in helical scanning, dynamic imaging and image segmentation for improved quantitative analysis with X-ray micro-CT. Nuclear Instruments & Methods in Physics Research B, 2014, 324, 49-56.	0.6	121
44	Image processing of multiphase images obtained via X-ray microtomography: A review. Water Resources Research, 2014, 50, 3615-3639.	1.7	472
45	Geometrical Frustration in Amorphous and Partially Crystallized Packings of Spheres. Physical Review Letters, 2013, 111, 148001.	2.9	43
46	Effect of fluid topology on residual nonwetting phase trapping: Implications for geologic CO2 sequestration. Advances in Water Resources, 2013, 62, 47-58.	1.7	185
47	X-ray imaging and analysis techniques for quantifying pore-scale structure and processes in subsurface porous medium systems. Advances in Water Resources, 2013, 51, 217-246.	1.7	939
48	Characterizing saline uptake and salt distributions in porous limestone with neutron radiography and X-ray micro-tomography. Journal of Building Physics, 2013, 36, 353-374.	1.2	34
49	Micro-Petrophysical Experiments Via Tomography and Simulation. , 2013, , 238-253.		2
50	Grain-based characterisation and acoustic wave propagation in a sand packing subject to triaxial compression. AIP Conference Proceedings, 2013, , .	0.3	2
51	Crystallisation in a granular material. , 2013, , .		2
52	Ground-truth verification of dynamic x-ray micro-tomography images of fluid displacement. , 2012, , .		3
53	Considerations for high-magnification high-cone-angle helical micro-CT. Proceedings of SPIE, 2012, , .	0.8	8
54	3D mapping of deformation in an unconsolidated sand: A micro mechanical study. , 2012, , .		3

#	ARTICLE	IF	CITATIONS
55	Structure and deformation correlation of closed-cell aluminium foam subject to uniaxial compression. <i>Acta Materialia</i> , 2012, 60, 3604-3615.	3.8	78
56	Mapping forces in a 3D elastic assembly of grains. <i>Journal of the Mechanics and Physics of Solids</i> , 2012, 60, 55-66.	2.3	65
57	Remobilization of Residual Non-Aqueous Phase Liquid in Porous Media by Freeze~Thaw Cycles. <i>Environmental Science & Technology</i> , 2011, 45, 3473-3478.	4.6	33
58	Dynamic tomography with a priori information. <i>Applied Optics</i> , 2011, 50, 3685.	2.1	43
59	Extending reference scan drift correction to high-magnification high-cone-angle tomography. <i>Optics Letters</i> , 2011, 36, 4809.	1.7	29
60	Theory and Algorithms for Constructing Discrete Morse Complexes from Grayscale Digital Images. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2011, 33, 1646-1658.	9.7	182
61	The Effect of Microporosity on Transport Properties in Tight Reservoirs. , 2011, , .		7
62	Reliable automatic alignment of tomographic projection data by passive auto~focus. <i>Medical Physics</i> , 2011, 38, 4934-4945.	1.6	82
63	High-resolution helical cone-beam micro-CT with theoretically-exact reconstruction from experimental data. <i>Medical Physics</i> , 2011, 38, 5459-5476.	1.6	81
64	Fast high-resolution micro-CT with exact reconstruction methods. <i>Proceedings of SPIE</i> , 2010, , .	0.8	7
65	Tomographic image analysis and processing to simulate micro-petrophysical experiments. , 2010, , .		1
66	An auto-focus method for generating sharp 3D tomographic images. , 2010, , .		8
67	The correlation of pore morphology, interconnectivity and physical properties of 3D ceramic scaffolds with bone ingrowth. <i>Biomaterials</i> , 2009, 30, 1440-1451.	5.7	297
68	Imaging of metallic foams using X-ray micro-CT. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2009, 344, 107-112.	2.3	63
69	Digital rock physics: 3D imaging of core material and correlations to acoustic and flow properties. <i>The Leading Edge</i> , 2009, 28, 28-33.	0.4	119
70	Morphological clues to wet granular pile~stability. <i>Nature Materials</i> , 2008, 7, 189-193.	13.3	288
71	Elastic and flow properties of carbonate core derived from 3D X ray~CT images. , 2008, , .		2
72	Robust Pore Size Analysis of Filamentous Networks from Three-Dimensional Confocal Microscopy. <i>Biophysical Journal</i> , 2008, 95, 6072-6080.	0.2	131

#	ARTICLE	IF	CITATIONS
73	Liquid distribution and cohesion in wet granular assemblies beyond the capillary bridge regime. Journal of Physics Condensed Matter, 2008, 20, 494236.	0.7	71
74	3D Imaging of Reservoir Core at Multiple Scales; Correlations to Petrophysical Properties and Pore Scale Fluid Distributions. , 2008, , .		9
75	X-Ray Micro-Tomography Applications Of Relevance To The Petroleum Industry. AIP Conference Proceedings, 2007, , .	0.3	1
76	Linear elastic properties of granular rocks derived from X-ray CT images. , 2007, , .		10
77	Developing a virtual materials laboratory. Materials Today, 2007, 10, 44-51.	8.3	160
78	Effect of network topology on two-phase imbibition relative permeability. Transport in Porous Media, 2007, 66, 481-493.	1.2	19
79	Assessment of bone ingrowth into porous biomaterials using MICRO-CT. Biomaterials, 2007, 28, 2491-2504.	5.7	370
80	Elastic and transport properties of cellular solids derived from three-dimensional tomographic images. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 2833-2862.	1.0	48
81	The effect of displacement rate on imbibition relative permeability and residual saturation. Journal of Petroleum Science and Engineering, 2006, 52, 54-70.	2.1	134
82	Quantitative properties of complex porous materials calculated from x-ray CT images. , 2006, , .		6
83	Pore Scale Characterization of Carbonates Using X-Ray Microtomography. SPE Journal, 2005, 10, 475-484.	1.7	194
84	What is the Characteristic Length Scale for Permeability? Direct Analysis From Microtomographic Data. , 2005, , .		8
85	Virtual Materials Design: Properties of Cellular Solids Derived from 3D Tomographic Images. Advanced Engineering Materials, 2005, 7, 238-243.	1.6	20
86	Volume Conservation of the Intermediate Phase in Three-Phase Pore-Network Models. Transport in Porous Media, 2005, 59, 155-173.	1.2	9
87	An x-ray tomography facility for quantitative prediction of mechanical and transport properties in geological, biological, and synthetic systems. , 2004, , .		15
88	Effect of Network Topology on Relative Permeability. Transport in Porous Media, 2004, 55, 21-46.	1.2	86
89	Analysis of 3D bone ingrowth into polymer scaffolds via micro-computed tomography imaging. Biomaterials, 2004, 25, 4947-4954.	5.7	162
90	Polymeric foam properties derived from 3D images. Physica A: Statistical Mechanics and Its Applications, 2004, 339, 131-136.	1.2	17

#	ARTICLE	IF	CITATIONS
91	Three-dimensional imaging of multiphase flow in porous media. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 339, 166-172.	1.2	89
92	Techniques for image enhancement and segmentation of tomographic images of porous materials. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 339, 145-151.	1.2	356
93	Three-dimensional analysis of cortical bone structure using X-ray micro-computed tomography. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 339, 125-130.	1.2	31
94	Digital Core Laboratory: Properties of reservoir core derived from 3D images. , 2004, , .		42
95	Relative permeability from tomographic images; effect of correlated heterogeneity. <i>Journal of Petroleum Science and Engineering</i> , 2003, 39, 247-259.	2.1	54
96	Virtual core laboratory: Properties of reservoir rock derived from X-ray CT images. , 2003, , .		4
97	PETROPHYSICAL PROPERTIES DERIVED FROM X-RAY CT IMAGES. <i>APPEA Journal</i> , 2003, 43, 577.	0.4	15
98	Micro-CT facility for imaging reservoir rocks at pore scales. , 2003, , .		8
99	Nonuniversality of invasion percolation in two-dimensional systems. <i>Physical Review E</i> , 2002, 65, 035101.	0.8	30
100	Trapping thresholds in invasion percolation. <i>Physical Review E</i> , 2002, 66, 056122.	0.8	14
101	Title is missing!. <i>Transport in Porous Media</i> , 2002, 46, 345-371.	1.2	101
102	Pore network modelling of two-phase flow in porous rock: the effect of correlated heterogeneity. <i>Advances in Water Resources</i> , 2001, 24, 257-277.	1.7	130
103	Title is missing!. <i>Transport in Porous Media</i> , 2001, 44, 465-485.	1.2	20
104	Invasion percolation with long-range correlations: First-order phase transition and nonuniversal scaling properties. <i>Physical Review E</i> , 2000, 61, 4920-4934.	0.8	78
105	Invasion percolation: new algorithms and universality classes. <i>Journal of Physics A</i> , 1999, 32, L521-L529.	1.6	121
106	Nonparaxiality stabilizes three-dimensional soliton beams in Kerr media. <i>Optics Letters</i> , 1998, 23, 1820.	1.7	31
107	Simulation of mercury porosimetry on correlated grids: Evidence for extended correlated heterogeneity at the pore scale in rocks. <i>Physical Review E</i> , 1998, 58, R6923-R6926.	0.8	48
108	Polarized dark solitons in isotropic Kerr media. <i>Physical Review E</i> , 1997, 55, 4773-4782.	0.8	197

#	ARTICLE	IF	CITATIONS
109	Stable topological spatial solitons in optical parametric oscillators. <i>Optics Letters</i> , 1997, 22, 970.	1.7	112
110	Domain walls of linear polarization in isotropic Kerr media. <i>Optics Communications</i> , 1997, 141, 167-172.	1.0	1
111	NRZ Soliton Transmission Scheme. <i>Solid-state Science and Technology Library</i> , 1996, , 37-52.	0.3	0
112	Bifurcations of the dark soliton and polarization domain walls in nonlinear dispersive media. <i>Physical Review E</i> , 1994, 49, 4512-4518.	0.8	36
113	Standing localized modes in nonlinear lattices. <i>Physical Review E</i> , 1994, 50, 3161-3170.	0.8	28
114	Polarization instability, multistability and transverse localized structures in Kerr media. <i>Chaos, Solitons and Fractals</i> , 1994, 4, 1731-1743.	2.5	9
115	Extended modulational instability and new type of solitary wave in coupled nonlinear Schrödinger equations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 185, 265-272.	0.9	22
116	The elliptically polarized fundamental vector soliton of isotropic Kerr media. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 194, 191-196.	0.9	30
117	Bifurcation phenomena and multiple soliton-bound states in isotropic Kerr media. <i>Physical Review E</i> , 1994, 49, 3376-3381.	0.8	91
118	Vector soliton associated with polarization modulational instability in the normal-dispersion regime. <i>Physical Review E</i> , 1994, 49, 3389-3399.	0.8	47
119	Polarization domain walls in diffractive or dispersive Kerr media. <i>Optics Letters</i> , 1994, 19, 96.	1.7	75
120	Polarization-domain solitary waves of circular symmetry in Kerr media. <i>Optics Letters</i> , 1994, 19, 859.	1.7	26
121	Devices written by colliding spatial solitons: a coupled mode theory approach. <i>Optics Communications</i> , 1993, 102, 317-323.	1.0	18
122	Bimodal counterpropagating spatial solitary-waves. <i>Optics Communications</i> , 1993, 103, 145-152.	1.0	44
123	Collisions, steering, and guidance with spatial solitons. <i>Optics Letters</i> , 1993, 18, 482.	1.7	113
124	Bound-vector solitary waves in isotropic nonlinear dispersive media. <i>Optics Letters</i> , 1993, 18, 1406.	1.7	78
125	Cancelling soliton interaction in singlemode optical fibres. <i>Electronics Letters</i> , 1993, 29, 1176.	0.5	10
126	The vector soliton associated with polarization modulational instability in the normal dispersion regime. , 0, , .		0

#	ARTICLE	IF	CITATIONS
127	Wavelength domains in bulk Kerr media. , 0, , .		0
128	Experimental Verification of Effect of Size on Drainage Capillary Pressure Computed from Digitized Tomographic Images. International Journal of Engineering Research in Africa, 0, 1, 1-10.	0.7	4
129	Automated registration for augmenting micro-CT 3D images. ANZIAM Journal, 0, 50, 534.	0.0	24