Manuel Guizar-Sicairos

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/6364158/publications.pdf

Version: 2024-02-01

156 papers

9,127 citations

50276 46 h-index 92 g-index

162 all docs 162 docs citations

times ranked

162

7963 citing authors

#	Article	IF	CITATIONS
1	Fingerprinting soft material nanostructure response to complex flow histories. Physical Review Materials, 2022, 6, .	2.4	6
2	Experimental observation of vortex rings in a bulk magnet. Nature Physics, 2021, 17, 316-321.	16.7	42
3	Highly Permeable Fluorinated Polymer Nanocomposites for Plasmonic Hydrogen Sensing. ACS Applied Materials & Samp; Interfaces, 2021, 13, 21724-21732.	8.0	17
4	Electron ptychography achieves atomic-resolution limits set by lattice vibrations. Science, 2021, 372, 826-831.	12.6	154
5	Nanostructure-specific X-ray tomography reveals myelin levels, integrity and axon orientations in mouse and human nervous tissue. Nature Communications, 2021, 12, 2941.	12.8	33
6	Sparse ab initio x-ray transmission spectrotomography for nanoscopic compositional analysis of functional materials. Science Advances, 2021, 7 , .	10.3	16
7	Multislice electron ptychography enables lattice vibration-limited resolution and linear phase-contrast imaging in thick samples. Microscopy and Microanalysis, 2021, 27, 754-756.	0.4	O
8	3D nanoscale analysis of bone healing around degrading Mg implants evaluated by X-ray scattering tensor tomography. Acta Biomaterialia, 2021, 134, 804-817.	8.3	14
9	X-ray nanotomography and electron backscatter diffraction demonstrate the crystalline, heterogeneous and impermeable nature of conodont white matter. Royal Society Open Science, 2021, 8, 202013.	2.4	5
10	Imaging of retina cellular and subcellular structures using ptychographic hard X-ray tomography. Journal of Cell Science, 2021, 134, .	2.0	2
11	Ptychography: A solution to the phase problem. Physics Today, 2021, 74, 42-48.	0.3	20
12	Nanostructure and anisotropy of 3D printed lyotropic liquid crystals studied by scattering and birefringence imaging. Additive Manufacturing, 2021, 47, 102289.	3.0	5
13	pH-responsive aminolipid nanocarriers for antimicrobial peptide delivery. Journal of Colloid and Interface Science, 2021, 603, 398-407.	9.4	11
14	Sparse X-ray hyperspectral tomography for nanoscopic compositional analysis of VPO catalysts. , 2021, , .		0
15	Retrieving neuronal orientations using 3D scanning SAXS and comparison with diffusion MRI. Neurolmage, 2020, 204, 116214.	4.2	20
16	Spatio-temporal evolution of hydroxyapatite crystal thickness at the bone-implant interface. Acta Biomaterialia, 2020, 116, 391-399.	8.3	8
17	Alterations in Sub-Axonal Architecture Between Normal Aging and Parkinson's Diseased Human Brains Using Label-Free Cryogenic X-ray Nanotomography. Frontiers in Neuroscience, 2020, 14, 570019.	2.8	2
18	Hierarchical Structure of NiMo Hydrodesulfurization Catalysts Determined by Ptychographic Xâ€Ray Computed Tomography. Angewandte Chemie - International Edition, 2020, 59, 17266-17271.	13.8	17

#	Article	IF	CITATIONS
19	Mapping the 3D orientation of nanocrystals and nanostructures in human bone: Indications of novel structural features. Science Advances, 2020, 6, eaba4171.	10.3	51
20	Hierarchical Structure of NiMo Hydrodesulfurization Catalysts Determined by Ptychographic Xâ€Ray Computed Tomography. Angewandte Chemie, 2020, 132, 17419-17424.	2.0	0
21	Time-resolved imaging of three-dimensional nanoscale magnetization dynamics. Nature Nanotechnology, 2020, 15, 356-360.	31.5	67
22	From 2D STXM to 3D Imaging: Soft X-ray Laminography of Thin Specimens. Nano Letters, 2020, 20, 1305-1314.	9.1	40
23	Correlations between lignin content and structural robustness in plants revealed by X-ray ptychography. Scientific Reports, 2020, 10, 6023.	3.3	29
24	Nanoscale crystal grain characterization <i>via</i> linear polarization X-ray ptychography. Chemical Communications, 2020, 56, 13373-13376.	4.1	10
25	<i>PtychoShelves</i> , a versatile high-level framework for high-performance analysis of ptychographic data. Journal of Applied Crystallography, 2020, 53, 574-586.	4.5	54
26	Validation study of small-angle X-ray scattering tensor tomography. Journal of Synchrotron Radiation, 2020, 27, 779-787.	2.4	16
27	Diminishing effects of mechanical loading over time during rat Achilles tendon healing. PLoS ONE, 2020, 15, e0236681.	2.5	14
28	LamNI – an instrument for X-ray scanning microscopy in laminography geometry. Journal of Synchrotron Radiation, 2020, 27, 730-736.	2.4	7
29	X-ray Fourier ptychography. Science Advances, 2019, 5, eaav0282.	10.3	40
30	Ab initio nonrigid X-ray nanotomography. Nature Communications, 2019, 10, 2600.	12.8	25
31	Probing Organic Thin Films by Coherent X-ray Imaging and X-ray Scattering. ACS Applied Polymer Materials, 2019, 1, 1787-1797.	4.4	2
32	Three-dimensional imaging of integrated circuits with macro- to nanoscale zoom. Nature Electronics, 2019, 2, 464-470.	26.0	96
33	Correlated X-Ray 3D Ptychography and Diffraction Microscopy Visualize Links between Morphology and Crystal Structure of Lithium-Rich Cathode Materials. IScience, 2019, 11, 356-365.	4.1	27
34	High-speed tensor tomography: iterative reconstruction tensor tomography (IRTT) algorithm. Acta Crystallographica Section A: Foundations and Advances, 2019, 75, 223-238.	0.1	20
35	Towards optimized illumination for high-resolution ptychography. Optics Express, 2019, 27, 14981.	3.4	48
36	Alignment methods for nanotomography with deep subpixel accuracy. Optics Express, 2019, 27, 36637.	3.4	36

#	Article	IF	Citations
37	Gridrec-MS: an algorithm for multi-slice tomography. Optics Letters, 2019, 44, 2181.	3.3	23
38	OMNYâ€"A tOMography Nano crYo stage. Review of Scientific Instruments, 2018, 89, 043706.	1.3	48
39	The compositional and nano-structural basis of fracture healing in healthy and osteoporotic bone. Scientific Reports, 2018, 8, 1591.	3.3	15
40	Evolutionaryâ€Optimized Photonic Network Structure in White Beetle Wing Scales. Advanced Materials, 2018, 30, e1702057.	21.0	95
41	Hard X-ray Magnetic Tomography: A New Technique For The Visualization Of Three Dimensional Magnetic Structures. Microscopy and Microanalysis, 2018, 24, 82-83.	0.4	O
42	High-resolution, Non-destructive X-ray Tomography. Chimia, 2018, 72, 339.	0.6	0
43	High-resolution 3D scanning X-ray microscopes at the Swiss Light Source. Microscopy and Microanalysis, 2018, 24, 172-175.	0.4	1
44	Resonant Ptychographic Tomography Facilitates Three-Dimensional Quantitative Colocalization of Catalyst Components and Chemical Elements. Journal of Physical Chemistry C, 2018, 122, 22920-22929.	3.1	24
45	Lignin Deposition In Arabidopsis thaliana Cell Walls Unveiled By Ptychographic X-Ray Computed Tomography (PXCT). Microscopy and Microanalysis, 2018, 24, 386-387.	0.4	1
46	Ptychographic X-ray CT characterization of the osteocyte lacuno-canalicular network in a male rat's glucocorticoid induced osteoporosis model. Bone Reports, 2018, 9, 122-131.	0.4	19
47	Iterative least-squares solver for generalized maximum-likelihood ptychography. Optics Express, 2018, 26, 3108.	3.4	111
48	Arbitrary-path fly-scan ptychography. Optics Express, 2018, 26, 12585.	3.4	40
49	Quantitative region-of-interest tomography using variable field of view. Optics Express, 2018, 26, 16752.	3.4	10
50	Automated Analysis of Spatially Resolved X-ray Scattering and Micro Computed Tomography of Artificial and Natural Enamel Carious Lesions. Journal of Imaging, 2018, 4, 81.	3.0	6
51	Small-angle X-ray scattering tensor tomography: model of the three-dimensional reciprocal-space map, reconstruction algorithm and angular sampling requirements. Acta Crystallographica Section A: Foundations and Advances, 2018, 74, 12-24.	0.1	46
52	Tomographic reconstruction of a three-dimensional magnetization vector field. New Journal of Physics, 2018, 20, 083009.	2.9	35
53	Development of a New Soft X-ray Ptychography Spectro-Microscope at the Swiss Light Source (SLS). Microscopy and Microanalysis, 2018, 24, 56-57.	0.4	4
54	Model-free classification of X-ray scattering signals applied to image segmentation. Journal of Applied Crystallography, 2018, 51, 1378-1386.	4.5	11

#	Article	IF	CITATIONS
55	High resolution 3D imaging of integrated circuits by x-ray ptychography. , 2018, , .		3
56	High-resolution non-destructive three-dimensional imaging of integrated circuits. Nature, 2017, 543, 402-406.	27.8	316
57	A three-dimensional view of structural changes caused by deactivation of fluid catalytic cracking catalysts. Nature Communications, 2017, 8, 809.	12.8	72
58	Achilles tendon compositional and structural properties are altered after unloading by botox. Scientific Reports, 2017, 7, 13067.	3.3	31
59	Live cell X-ray imaging of autophagic vacuoles formation and chromatin dynamics in fission yeast. Scientific Reports, 2017, 7, 13775.	3.3	18
60	Three-dimensional magnetization structures revealed with X-ray vector nanotomography. Nature, 2017, 547, 328-331.	27.8	221
61	Effects of tissue fixation and dehydration on tendon collagen nanostructure. Journal of Structural Biology, 2017, 199, 209-215.	2.8	34
62	Three-Dimensional Imaging of Biological Tissue by Cryo X-Ray Ptychography. Scientific Reports, 2017, 7, 6291.	3.3	49
63	Interlaced zone plate optics for hard X-ray imaging in the 10 nm range. Scientific Reports, 2017, 7, .	3.3	103
64	Probing the bulk heterojunction morphology in thermally annealed active layers for polymer solar cells. Organic Electronics, 2017, 41, 319-326.	2.6	10
65	Advanced glycation end-products: Mechanics of aged collagen from molecule to tissue. Matrix Biology, 2017, 59, 95-108.	3.6	186
66	High-acceptance versatile microfocus module based on elliptical Fresnel zone plates for small-angle X-ray scattering. Optics Express, 2017, 25, 21145.	3.4	5
67	Path toward fast, high-resolution and more photon-efficient X-ray ptychography. , 2017, , .		1
68	High-Resolution Ptychographic Tomography with Extended Depth of Field., 2017,,.		2
69	X-Ray Nanoscopy of a Bulk Heterojunction. PLoS ONE, 2016, 11, e0158345.	2.5	7
70	X-ray ptychography with extended depth of field. Optics Express, 2016, 24, 29089.	3.4	94
71	Ultrastructure Organization of Human Trabeculae Assessed by 3D sSAXS and Relation to Bone Microarchitecture. PLoS ONE, 2016, 11, e0159838.	2.5	21
72	Addendum to "Three-dimensional mass density mapping of cellular ultrastructure by ptychographic X-ray nanotomography―[J. Struct. Biol. 192 (2015) 461–469]. Journal of Structural Biology, 2016, 193, 83.	2.8	2

#	Article	IF	Citations
73	Internal structure of sponge glass fiber revealed by ptychographic nanotomography. Journal of Structural Biology, 2016, 194, 124-128.	2.8	12
74	Signal-to-noise criterion for free-propagation imaging techniques at free-electron lasers and synchrotrons. Optics Express, 2016, 24, 3189.	3.4	28
75	X-ray ptychography using a distant analyzer. Optics Express, 2016, 24, 6441.	3.4	9
76	Phase retrieval by coherent modulation imaging. Nature Communications, 2016, 7, 13367.	12.8	125
77	Bone mineral crystal size and organization vary across mature rat bone cortex. Journal of Structural Biology, 2016, 195, 337-344.	2.8	46
78	Publisher's Note: High-resolution hard x-ray magnetic imaging with dichroic ptychography [Phys. Rev. B 94, 064421 (2016)]. Physical Review B, 2016, 94, .	3.2	1
79	High-resolution hard x-ray magnetic imaging with dichroic ptychography. Physical Review B, 2016, 94, .	3.2	30
80	Segmentation of nanotomographic cortical bone images for quantitative characterization of the osteoctyte lacuno-canalicular network. AIP Conference Proceedings, 2016, , .	0.4	4
81	Zernike x-ray ptychography. Optics Letters, 2016, 41, 721.	3.3	3
82	Fabrication and characterization of high-efficiency double-sided blazed x-ray optics. Optics Letters, 2016, 41, 281.	3.3	20
83	Ptychographic X-ray nanotomography quantifies mineral distributions in human dentine. Scientific Reports, 2015, 5, 9210.	3.3	34
84	Quantitative 3D Xâ€ray Imaging of Densification, Delamination and Fracture in a Microâ€Composite under Compression. Advanced Engineering Materials, 2015, 17, 545-553.	3.5	19
85	Critical appraisal of tubular putative eumetazoans from the Ediacaran Weng'an Doushantuo biota. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20151169.	2.6	21
86	Improving organic tandem solar cells based on water-processed nanoparticles by quantitative 3D nanoimaging. Nanoscale, 2015, 7, 13765-13774.	5.6	30
87	Element-Specific X-Ray Phase Tomography of 3D Structures at the Nanoscale. Physical Review Letters, 2015, 114, 115501.	7.8	80
88	Mass Density and Water Content of Saturated Never-Dried Calcium Silicate Hydrates. Langmuir, 2015, 31, 3779-3783.	3.5	40
89	High resolution double-sided diffractive optics for hard X-ray microscopy. Optics Express, 2015, 23, 776.	3.4	46
90	Ptychographic nanotomography at the Swiss Light Source. Proceedings of SPIE, 2015, , .	0.8	2

#	Article	IF	CITATIONS
91	Quantitative interior x-ray nanotomography by a hybrid imaging technique. Optica, 2015, 2, 259.	9.3	82
92	Three-dimensional mass density mapping of cellular ultrastructure by ptychographic X-ray nanotomography. Journal of Structural Biology, 2015, 192, 461-469.	2.8	72
93	Nanostructure surveys of macroscopic specimens by small-angle scattering tensor tomography. Nature, 2015, 527, 349-352.	27.8	170
94	Six-dimensional real and reciprocal space small-angle X-ray scattering tomography. Nature, 2015, 527, 353-356.	27.8	149
95	Assessment of the 3 D Pore Structure and Individual Components of Preshaped Catalyst Bodies by Xâ€Ray Imaging. ChemCatChem, 2015, 7, 413-416.	3.7	64
96	3D scanning SAXS: A novel method for the assessment of bone ultrastructure orientation. Bone, 2015, 71, 42-52.	2.9	61
97	Advanced Glycation End-Products Reduce Collagen Molecular Sliding to Affect Collagen Fibril Damage Mechanisms but Not Stiffness. PLoS ONE, 2014, 9, e110948.	2.5	113
98	A novel concept for actinic EUV mask review tool using a scanning lensless imaging method at the Swiss Light Source (Withdrawal Notice). , 2014, , .		2
99	On-the-fly scans for X-ray ptychography. Applied Physics Letters, 2014, 105, .	3. 3	106
100	High-throughput ptychography using Eiger-scanning X-ray nano-imaging of extended regions. Optics Express, 2014, 22, 14859.	3.4	136
101	Kinoform diffractive lenses for efficient nano-focusing of hard X-rays. Optics Express, 2014, 22, 16676.	3.4	23
102	Characterization of x-ray phase vortices by ptychographic coherent diffractive imaging. Optics Letters, 2014, 39, 5281.	3.3	40
103	Characterization of carbon fibers using X-ray phase nanotomography. Carbon, 2014, 67, 98-103.	10.3	26
104	Eiger: a single-photon counting x-ray detector. Journal of Instrumentation, 2014, 9, C05032-C05032.	1.2	65
105	X-ray ptychographic computed tomography at 16â€nm isotropic 3D resolution. Scientific Reports, 2014, 4, 3857.	3.3	281
106	Coherent imaging at the diffraction limit. Journal of Synchrotron Radiation, 2014, 21, 1011-1018.	2.4	56
107	Two-dimensional structure from random multiparticle X-ray scattering images using cross-correlations. Nature Communications, 2013, 4, 1647.	12.8	42
108	Ptychographic Imaging at the Swiss Light Source. Synchrotron Radiation News, 2013, 26, 26-31.	0.8	5

#	Article	IF	CITATIONS
109	Density mapping of hardened cement paste using ptychographic X-ray computed tomography. Cement and Concrete Composites, 2013, 36, 71-77.	10.7	79
110	Cryoâ€scanning xâ€ray diffraction microscopy of frozenâ€hydrated yeast. Journal of Microscopy, 2013, 249, 1-7.	1.8	44
111	Three-Dimensional Structure Analysis and Percolation Properties of a Barrier Marine Coating. Scientific Reports, 2013, 3, 1177.	3.3	51
112	Ptychographic X-ray Tomography of Silk Fiber Hydration. Macromolecules, 2013, 46, 434-439.	4.8	44
113	Angular spectrum simulation of X-ray focusing by Fresnel zone plates. Journal of Synchrotron Radiation, 2013, 20, 397-404.	2.4	38
114	An instrument for 3D x-ray nano-imaging. Review of Scientific Instruments, 2012, 83, 073703.	1.3	98
115	Understanding the twin-image problem in phase retrieval. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 2367.	1.5	73
116	Role of the illumination spatial-frequency spectrum for ptychography. Physical Review B, 2012, 86, .	3.2	93
117	Maximum-likelihood refinement for coherent diffractive imaging. New Journal of Physics, 2012, 14, 063004.	2.9	276
118	Quantitative x-ray phase nanotomography. Physical Review B, 2012, 85, .	3.2	147
119	X-ray phase nanotomography through ptychographic coherent lensless imaging. , 2011, , .		2
120	Characterization of high-resolution diffractive X-ray optics by ptychographic coherent diffractive imaging. Optics Express, 2011, 19, 21333.	3.4	166
121	Phase tomography from x-ray coherent diffractive imaging projections. Optics Express, 2011, 19, 21345.	3.4	183
122	Measurement of hard x-ray lens wavefront aberrations using phase retrieval. Applied Physics Letters, 2011, 98, 111108.	3.3	50
123	Characterization of a 20-nm hard x-ray focus by ptychographic coherent diffractive imaging. Proceedings of SPIE, 2011, , .	0.8	O
124	High-Resolution X-Ray Lensless Imaging by Differential Holographic Encoding. Physical Review Letters, 2010, 105, 043901.	7.8	77
125	One-dimensional hard x-ray field retrieval using a moveable structure. Optics Express, 2010, 18, 18374.	3.4	21
126	Validation of quantitative Ronchi test through numerical propagation. Optics Express, 2010, 18, 18525.	3.4	5

#	Article	IF	CITATIONS
127	Reconstruction of an astigmatic hard X-ray beam and alignment of K-B mirrors from ptychographic coherent diffraction data. Optics Express, 2010, 18, 23420.	3.4	120
128	Holographic x-ray image reconstruction through the application of differential and integral operators. Optics Letters, 2010, 35, 928.	3.3	9
129	Differentially Encoded Holography for X-Ray Coherent Imaging. Optics and Photonics News, 2010, 21, 31.	0.5	1
130	Single-shot Femtosecond X-Ray Holography Using Extended References. Physical Review Letters, 2010, 105, 093901.	7.8	81
131	Paraxial group. Optics Letters, 2009, 34, 13.	3.3	37
132	Phase Retrieval with Transverse Translations for X-ray and Optical Wavefront Sensing. Optics and Photonics News, 2009, 20, 20.	0.5	14
133	Optical wavefront measurement using phase retrieval with transverse translation diversity. Optics Express, 2009, 17, 624.	3.4	109
134	Measurement of coherent x-ray focused beams by phase retrieval with transverse translation diversity. Optics Express, 2009, 17, 2670.	3.4	47
135	Holographic Image Reconstruction Using a Reference of a Pair of Crossed Wires. , 2009, , .		O
136	Efficient subpixel image registration algorithms. Optics Letters, 2008, 33, 156.	3.3	1,611
137	Direct image reconstruction from a Fourier intensity pattern using HERALDO. Optics Letters, 2008, 33, 2668.	3.3	58
138	Phase retrieval with Fourier-weighted projections. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 701.	1.5	19
139	Phase retrieval with transverse translation diversity: a nonlinear optimization approach. Optics Express, 2008, 16, 7264.	3.4	464
140	Image reconstruction by phase retrieval with transverse translation diversity. Proceedings of SPIE, 2008, , .	0.8	3
141	Focused X-ray Beam Characterization by Phase Retrieval with a Moveable Phase-shifting Structure. , 2008, , .		0
142	Holography with extended reference by autocorrelation linear differential operation. Optics Express, 2007, 15, 17592.	3.4	128
143	Generalized Helmholtz-Gauss beam and its transformation by paraxial optical systems. Optics Letters, 2006, 31, 2912.	3.3	43
144	Boundaryless finite-difference method for three-dimensional beam propagation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 866.	1.5	3

#	Article	IF	CITATIONS
145	Propagation of Helmholtz-Gauss beams in absorbing and gain media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 1994.	1.5	9
146	Propagation of generalized vector Helmholtz-Gauss beams through paraxial optical systems. Optics Express, 2006, 14, 8974.	3.4	42
147	Two-dimensional boundary-less optical field propagation. , 2005, 5867, 369.		O
148	Construction and characterization of a CO 2 axicon-based Bessel-Gauss resonator. , 2005, 5708, 323.		5
149	Modeling of transverse-mode competition in unstable resonators with large discharge current using the exact cavity equations of motion with dynamic gain., 2005, 5708, 32.		O
150	Application of the two-dimensional Fourier transform scaling theorem to Dirac delta curves. , 2005, , .		0
151	Numerical analysis of the mode competition in high-gain unstable resonators using the exact cavity equations of motion with dynamic gain., 2005,,.		O
152	Coupled mode competition in unstable resonators using the exact cavity equations of motion with dynamic gain. Journal of Optics B: Quantum and Semiclassical Optics, 2005, 7, 253-263.	1.4	1
153	Morphological segmentation and digital image processing to retrieve geometric characteristics of fabric filaments. , 2005, , .		O
154	Quasi-discrete Hankel transform of integer order for wave propagation. , 2004, , .		0
155	Computation of quasi-discrete Hankel transforms of integer order for propagating optical wave fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 53.	1.5	208
156	Two-dimensional Fourier transform of scaled Dirac delta curves. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 1682.	1.5	1