Max Langer

List of Publications by Year
in descending order

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84	2,482	230014	232693
papers	citations	27	48
		h-index	g-index

86	86	86	3050
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	X-ray in-line holography and holotomography at the NanoMAX beamline. Journal of Synchrotron Radiation, 2022, 29, 224-229.	1.0	7
2	Mixed scale dense convolutional networks for x-ray phase contrast imaging. Applied Optics, 2022, 61, 2497.	0.9	5
3	Dose-efficient multimodal microscopy of human tissue at a hard X-ray nanoprobe beamline. Journal of Synchrotron Radiation, 2022, 29, 807-815.	1.0	1
4	Interconnectivity Explains High Canalicular Network Robustness between Neighboring Osteocyte Lacunae in Human Bone. Advanced NanoBiomed Research, 2022, 2, .	1.7	8
5	Evaluation of imaging setups for quantitative phase contrast nanoCT of mineralized biomaterials. Journal of Synchrotron Radiation, 2022, 29, 843-852.	1.0	8
6	Impact of Anti-Angiogenic Treatment on Bone Vascularization in a Murine Model of Breast Cancer Bone Metastasis Using Synchrotron Radiation Micro-CT. Cancers, 2022, 14, 3443.	1.7	2
7	Quantitative analysis of bone microvasculature in a mouse model using the monogenic signal phase asymmetry and marker-controlled watershed. Physics in Medicine and Biology, 2021, 66, 125005.	1.6	3
8	PyPhase â€“ a Python package for X-ray phase imaging. Journal of Synchrotron Radiation, 2021, 28, 1261-1266.	1.0	10
9	Evaluation of simulators for x-ray speckle-based phase contrast imaging. Physics in Medicine and Biology, 2021, 66, 175027.	1.6	4
10	What is the influence of two strain rates on the relationship between human cortical bone toughness and micro-structure?. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2020, 234, 247-254.	1.0	2
11	Segmentation of Bone Vessels in 3D Micro-CT Images Using the Monogenic Signal Phase and Watershed. , 2020, , .		1
12	Towards Monte Carlo simulation of X-ray phase contrast using GATE. Optics Express, 2020, 28, 14522.	1.7	18
13	Influence of loading condition and anatomical location on human cortical bone linear micro-cracks. Journal of Biomechanics, 2019, 85, 59-66.	0.9	7
14	Anisotropic elastic properties of human femoral cortical bone and relationships with composition and microstructure in elderly. Acta Biomaterialia, 2019, 90, 254-266.	4.1	31
15	Relationships between human cortical bone toughness and collagen cross-links on paired anatomical locations. Bone, 2018, 112, 202-211.	1.4	20
16	Registration of phaseâ€contrast images in propagationâ€based Xâ€ray phase tomography. Journal of Microscopy, 2018, 269, 36-47.	0.8	7
17	In-Line X-Ray Phase Tomography of Bone and Biomaterials for Regenerative Medicine. Fundamental Biomedical Technologies, 2018, , 91-109.	0.2	0
18	Low-dose synchrotron nano-CT via compressed sensing. , 2018, , .		0

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19	Evaluation of phase retrieval approaches in magnified X-ray phase nano computerized tomography applied to bone tissue. Optics Express, 2018, 26, 11110.	1.7	23
20	3D micro structural analysis of human cortical bone in paired femoral diaphysis, femoral neck and radial diaphysis. Journal of Structural Biology, 2018, 204, 182-190.	1.3	20
21	Extraction of the 3D local orientation of myocytes in human cardiac tissue using X-ray phase-contrast micro-tomography and multi-scale analysis. Medical Image Analysis, 2017, 38, 117-132.	7.0	29
22	Strain rate influence on human cortical bone toughness: A comparative study of four paired anatomical sites. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 71, 223-230.	1.5	26
23	Phase retrieval in 3D X-ray magnified phase nano CT: Imaging bone tissue at the nanoscale. , 2017, , .		3
24	Synchrotron Phase Tomography: An Emerging Imaging Method for Microvessel Detection in Engineered Bone of Craniofacial Districts. Frontiers in Physiology, 2017, 8, 769.	1.3	20
25	Combining Coherent Hard X-Ray Tomographies with Phase Retrieval to Generate Three-Dimensional Models of Forming Bone. Frontiers in Materials, 2017, 4, .	1.2	5
26	Assessment of imaging quality in magnified phase CT of human bone tissue at the nanoscale. , 2017, , .		2
27	Quantitative evaluation of regularized phase retrieval algorithms on bone scaffolds seeded with bone cells. Physics in Medicine and Biology, 2016, 61, N215-N231.	1.6	7
28	3D X-ray ultra-microscopy of bone tissue. Osteoporosis International, 2016, 27, 441-455.	1.3	29
29	Synchrotron X-Ray Phase Nanotomography for Bone Tissue Characterization. , 2016, , 1-42.		3
30	Fast virtual histology using X-ray in-line phase tomography: application to the 3D anatomy of maize developing seeds. Plant Methods, 2015, 11, 55.	1.9	49
31	Dose fractionation in synchrotron radiation x-ray phase micro-tomography. Physics in Medicine and Biology, 2015, 60, 7543-7566.	1.6	4
32	Distribution of mesoscale elastic properties and mass density in the human femoral shaft. Connective Tissue Research, 2015, 56, 120-132.	1.1	11
33	Canalicular Network Morphology Is the Major Determinant of the Spatial Distribution of Mass Density in Human Bone Tissue: Evidence by Means of Synchrotron Radiation Phase-Contrast nano-CT. Journal of Bone and Mineral Research, 2015, 30, 346-356.	3.1	108
34	Assessment of bone vascularization and its role in bone remodeling. BoneKEy Reports, 2015, 4, 662.	2.7	98
35	Synchrotron X-ray phase nano-tomography-based analysis of the lacunarâ€“canalicular network morphology and its relation to the strains experienced by osteocytes in situ as predicted by case-specific finite element analysis. Biomechanics and Modeling in Mechanobiology, 2015, 14, 267-282.	1.4	83
36	Very High-Resolution Imaging of Post-Mortem Human Cardiac Tissue Using X-Ray Phase Contrast Tomography. Lecture Notes in Computer Science, 2015, , 172-179.	1.0	10

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37	Computer vision tools to optimize reconstruction parameters in x-ray in-line phase tomography. Physics in Medicine and Biology, 2014, 59, 7767-7775.	1.6	10
38	Experimental comparison of grating- and propagation-based hard X-ray phase tomography of soft tissue. Journal of Applied Physics, 2014, 116, .	1.1	46
39	Micro- and Nano-CT for the Study of Bone Ultrastructure. Current Osteoporosis Reports, 2014, 12, 465-474.	1.5	87
40	3D osteocyte lacunar morphometric properties and distributions in human femoral cortical bone using synchrotron radiation micro-CT images. Bone, 2014, 60, 172-185.	1.4	105
41	Accessing osteocyte lacunar geometrical properties in human jaw bone on the submicron length scale using synchrotron radiation Î¼CT. Journal of Microscopy, 2014, 255, 158-168.	0.8	22
42	Priors for X-ray in-line phase tomography of heterogeneous objects. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130129.	1.6	22
43	Alterations of Mass Density and 3D Osteocyte Lacunar Properties in Bisphosphonate-Related Osteonecrotic Human Jaw Bone, a Synchrotron ÂµCT Study. PLoS ONE, 2014, 9, e88481.	1.1	47
44	Investigation of the three-dimensional orientation of mineralized collagen fibrils in human lamellar bone using synchrotron X-ray phase nano-tomography. Acta Biomaterialia, 2013, 9, 8118-8127.	4.1	95
45	Adaptive filtering for enhancement of the osteocyte cell network in 3D microtomography images. Irbm, 2013, 34, 48-52.	3.7	11
46	Synchrotron Radiation X-Ray Phase Micro-computed Tomography as a New Method to Detect Iron Oxide Nanoparticles in the Brain. Molecular Imaging and Biology, 2013, 15, 552-559.	1.3	39
47	Information-based analysis of X-ray in-line phase tomography with application to the detection of iron oxide nanoparticles in the brain. Optics Express, 2013, 21, 27185.	1.7	8
48	Nonlinear approaches for the single-distance phase retrieval problem involving regularizations with sparsity constraints. Applied Optics, 2013, 52, 3977.	0.9	12
49	Three Years After Transplants in Human Mandibles, Histological and In-Line Holotomography Revealed That Stem Cells Regenerated a Compact Rather Than a Spongy Bone: Biological and Clinical Implications. Stem Cells Translational Medicine, 2013, 2, 316-324.	1.6	149
50	Holotomography versus X-ray grating interferometry: A comparative study. Applied Physics Letters, 2013, 103, .	1.5	36
51	Level set regularization for nonlinear absorption and phase retrieval in X-ray phase contrast tomography. , 2013, , .		1
52	Absorption and phase retrieval with Tikhonov and joint sparsity regularizations. Inverse Problems and Imaging, 2013, 7, 267-282.	0.6	14
53	Analytical and experimental determination of signal-to-noise ratio and figure of merit in three phase-contrast imaging techniques. Optics Express, 2012, 20, 27670.	1.7	50
54	X-ray in-line phase tomography of multimaterial objects. Optics Letters, 2012, 37, 2151.	1.7	38

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55	3D X-ray CT imaging of the bone Lacuno-Canalicular Network. , 2012, , .		2
56	Histogram Featureâ€“Based Classification Improves Differentiability of Early Bone Healing Stages From Micro-Computed Tomographic Data. Journal of Computer Assisted Tomography, 2012, 36, 469-476.	0.5	3
57	Absorption and phase retrieval in phase contrast imaging with non linear Tikhonov regularization. Journal of Physics: Conference Series, 2012, 386, 012012.	0.3	0
58	Non-linear iterative phase retrieval based on Frechet derivative and projection operators. , 2012, , .		2
59	Propagation based X-ray phase microtomography of multi-material objects for simultaneous bone and soft tissue visualisation. , 2012, , .		0
60	Spatial distribution of tissue level properties in a human femoral cortical bone. Journal of Biomechanics, 2012, 45, 2264-2270.	0.9	42
61	Synchrotron radiation CT from the micro to nanoscale for the investigation of bone tissue. Proceedings of SPIE, 2012, , .	0.8	4
62	Nanoscale imaging of the bone cell network with synchrotron Xâ€ray tomography: optimization of acquisition setup. Medical Physics, 2012, 39, 2229-2238.	1.6	84
63	X-Ray Phase Nanotomography Resolves the 3D Human Bone Ultrastructure. PLoS ONE, 2012, 7, e35691.	1.1	140
64	Nonlinear Phase Retrieval Using Projection Operator and Iterative Wavelet Thresholding. IEEE Signal Processing Letters, 2012, 19, 579-582.	2.1	7
65	Simultaneous 3D Imaging of Bone and Vessel Microstructure in a Rat Model. IEEE Transactions on Nuclear Science, 2011, 58, 139-145.	1.2	17
66	Non-linear iterative phase retrieval based on Frechet derivative. Optics Express, 2011, 19, 22809.	1.7	27
67	Non linear phase retrieval from fresnel diffraction patterns using the frechet derivative. , 2011, , .		1
68	Whispering to the Deaf: Communication by a Frog without External Vocal Sac or Tympanum in Noisy Environments. PLoS ONE, 2011, 6, e22080.	1.1	30
69	Quantitative phase and absorption tomography with an Xâ€ray grating interferometer and synchrotron radiation. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2526-2532.	0.8	36
70	Intermittent PTH(1â€“84) is osteoanabolic but not osteoangiogenic and relocates bone marrow blood vessels closer to bone-forming sites. Journal of Bone and Mineral Research, 2011, 26, 2583-2596.	3.1	96
71	3D microscopic imaging by synchrotron radiation micro/nano-CT. , 2011, , .		2
72	Segmentation of 3D cellular networks from SR-micro-CT images. , 2011, , .		4

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73	Experimental characterisation of damage in SiC/SiC minicomposites. EPJ Web of Conferences, 2010, 6, 20002.	0.1	4
74	Regularized phase tomography enables study of mineralized and unmineralized tissue in porous bone scaffold. Journal of Microscopy, 2010, 238, 230-239.	0.8	22
75	A wavelet algorithm for zoom-in tomography. , 2010, , .		2
76	Regularization of Phase Retrieval With Phase-Attenuation Duality Prior for 3-D Holotomography. IEEE Transactions on Image Processing, 2010, 19, 2428-2436.	6.0	71
77	Skull and brain of a 300-million-year-old chimaeroid fish revealed by synchrotron holotomography. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5224-5228.	3.3	81
78	Simultaneous 3D imaging of bone and vessel microstructure in a rat model: Measurement of vascular-trabecular interdistance. , 2009, , .		0
79	Fourier-wavelet regularization of phase retrieval in x-ray in-line phase tomography. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 1876.	0.8	17
80	Quantitative investigation of bone microvascularization from 3D synchrotron micro-computed tomography in a rat model. , 2009, 2009, 1004-7.		9
81	Quantitative comparison of direct phase retrieval algorithms in inâ€line phase tomography. Medical Physics, 2008, 35, 4556-4566.	1.6	143
82	Mixed transfer function and transport of intensity approach for phase retrieval in the Fresnel region. Optics Letters, 2007, 32, 1617.	1.7	166
83	QUANTITATIVE EVALUATION OF PHASE RETRIEVAL ALGORITHMS IN PROPAGATION BASED PHASE TOMOGRAPHY. , 2007, , .		1
84	Design of Fast Multidimensional Filters Using Genetic Algorithms. Lecture Notes in Computer Science, 2005, , 366-375.	1.0	1