

Martin Bech

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1969014/publications.pdf>

Version: 2024-02-01

115
papers

5,238
citations

87723

38
h-index

88477

70
g-index

117
all docs

117
docs citations

117
times ranked

3478
citing authors

#	ARTICLE	IF	CITATIONS
1	Hard-X-ray dark-field imaging using a grating interferometer. <i>Nature Materials</i> , 2008, 7, 134-137.	13.3	1,009
2	High-resolution brain tumor visualization using three-dimensional x-ray phase contrast tomography. <i>Physics in Medicine and Biology</i> , 2007, 52, 6923-6930.	1.6	218
3	Quantitative x-ray dark-field computed tomography. <i>Physics in Medicine and Biology</i> , 2010, 55, 5529-5539.	1.6	202
4	Emphysema diagnosis using X-ray dark-field imaging at a laser-driven compact synchrotron light source. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 17880-17885.	3.3	167
5	Six-dimensional real and reciprocal space small-angle X-ray scattering tomography. <i>Nature</i> , 2015, 527, 353-356.	13.7	149
6	Multimodal x-ray scatter imaging. <i>New Journal of Physics</i> , 2009, 11, 123016.	1.2	138
7	In-vivo dark-field and phase-contrast x-ray imaging. <i>Scientific Reports</i> , 2013, 3, 3209.	1.6	138
8	Experimental results from a preclinical X-ray phase-contrast CT scanner. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 15691-15696.	3.3	136
9	Hard X-ray phase-contrast imaging with the Compact Light Source based on inverse Compton X-rays. <i>Journal of Synchrotron Radiation</i> , 2009, 16, 43-47.	1.0	128
10	Soft-tissue phase-contrast tomography with an x-ray tube source. <i>Physics in Medicine and Biology</i> , 2009, 54, 2747-2753.	1.6	118
11	Quantitative X-ray phase-contrast microtomography from a compact laser-driven betatron source. <i>Nature Communications</i> , 2015, 6, 7568.	5.8	116
12	Directional x-ray dark-field imaging. <i>Physics in Medicine and Biology</i> , 2010, 55, 3317-3323.	1.6	112
13	Pulmonary Emphysema Diagnosis with a Preclinical Small-Animal X-ray Dark-Field Scatter-Contrast Scanner. <i>Radiology</i> , 2013, 269, 427-433.	3.6	109
14	Trimodal low-dose X-ray tomography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 10199-10204.	3.3	103
15	X-ray phase-contrast tomography with a compact laser-driven synchrotron source. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 5567-5572.	3.3	103
16	Monochromatic computed tomography with a compact laser-driven X-ray source. <i>Scientific Reports</i> , 2013, 3, 1313.	1.6	94
17	Directional x-ray dark-field imaging of strongly ordered systems. <i>Physical Review B</i> , 2010, 82, .	1.1	83
18	In Vivo Dark-Field Radiography for Early Diagnosis and Staging of Pulmonary Emphysema. <i>Investigative Radiology</i> , 2015, 50, 430-435.	3.5	77

#	ARTICLE	IF	CITATIONS
19	X-ray dark-field and phase-contrast imaging using a grating interferometer. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	76
20	Validation strategies for the interpretation of microstructure imaging using diffusion MRI. <i>NeuroImage</i> , 2018, 182, 62-79.	2.1	73
21	Improved In vivo Assessment of Pulmonary Fibrosis in Mice using X-Ray Dark-Field Radiography. <i>Scientific Reports</i> , 2015, 5, 17492.	1.6	72
22	X-ray vector radiography for bone micro-architecture diagnostics. <i>Physics in Medicine and Biology</i> , 2012, 57, 3451-3461.	1.6	65
23	Advanced contrast modalities for X-ray radiology: Phase-contrast and dark-field imaging using a grating interferometer. <i>Zeitschrift Fur Medizinische Physik</i> , 2010, 20, 7-16.	0.6	60
24	Grating-based X-ray Dark-field Computed Tomography of Living Mice. <i>EBioMedicine</i> , 2015, 2, 1500-1506.	2.7	60
25	Quantitative X-ray phase-contrast computed tomography at 82 keV. <i>Optics Express</i> , 2013, 21, 4155.	1.7	59
26	Injection of high dose botulinum-toxin A leads to impaired skeletal muscle function and damage of the fibrillar and non-fibrillar structures. <i>Scientific Reports</i> , 2017, 7, 14746.	1.6	55
27	Novelty detection of foreign objects in food using multi-modal X-ray imaging. <i>Food Control</i> , 2016, 67, 39-47.	2.8	53
28	The Dual Function of Orchid Bee Ocelli as Revealed by X-Ray Microtomography. <i>Current Biology</i> , 2016, 26, 1319-1324.	1.8	53
29	Axon morphology is modulated by the local environment and impacts the noninvasive investigation of its structureâ€“function relationship. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 33649-33659.	3.3	53
30	Improved Diagnosis of Pulmonary Emphysema Using In Vivo Dark-Field Radiography. <i>Investigative Radiology</i> , 2014, 49, 653-658.	3.5	52
31	Interlaced phase stepping in phase-contrast x-ray tomography. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	49
32	X-ray imaging with the PILATUS 100k detector. <i>Applied Radiation and Isotopes</i> , 2008, 66, 474-478.	0.7	48
33	Molecular X-ray computed tomography of myelin in a rat brain. <i>NeuroImage</i> , 2011, 57, 124-129.	2.1	48
34	Bone mineral crystal size and organization vary across mature rat bone cortex. <i>Journal of Structural Biology</i> , 2016, 195, 337-344.	1.3	46
35	Development of a prototype gantry system for preclinical x-ray phase-contrast computed tomography. <i>Medical Physics</i> , 2011, 38, 5910-5915.	1.6	44
36	Diagnosing and Mapping Pulmonary Emphysema on X-Ray Projection Images: Incremental Value of Grating-Based X-Ray Dark-Field Imaging. <i>PLoS ONE</i> , 2013, 8, e59526.	1.1	44

#	ARTICLE	IF	CITATIONS
37	Region-of-Interest Tomography for Grating-Based X-Ray Differential Phase-Contrast Imaging. <i>Physical Review Letters</i> , 2008, 101, 168101.	2.9	43
38	Brain tumor imaging using small-angle x-ray scattering tomography. <i>Physics in Medicine and Biology</i> , 2011, 56, 1717-1726.	1.6	43
39	Statistical iterative reconstruction algorithm for X-ray phase-contrast CT. <i>Scientific Reports</i> , 2015, 5, 10452.	1.6	43
40	Microbubbles as a scattering contrast agent for grating-based x-ray dark-field imaging. <i>Physics in Medicine and Biology</i> , 2013, 58, N37-N46.	1.6	39
41	Synchrotron-based phase-contrast micro-CT as a tool for understanding pulmonary vascular pathobiology and the 3-D microanatomy of alveolar capillary dysplasia. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2020, 318, L65-L75.	1.3	38
42	X-ray phase-contrast tomography of porcine fat and rind. <i>Meat Science</i> , 2011, 88, 379-383.	2.7	33
43	Multimodal hard X-ray imaging of a mammography phantom at a compact synchrotron light source. <i>Journal of Synchrotron Radiation</i> , 2012, 19, 525-529.	1.0	33
44	Recent developments in x-ray Talbot interferometry at ESRF-ID19. <i>Proceedings of SPIE</i> , 2010, , .	0.8	32
45	FMT-PCCT: Hybrid Fluorescence Molecular Tomography and X-Ray Phase-Contrast CT Imaging of Mouse Models. <i>IEEE Transactions on Medical Imaging</i> , 2014, 33, 1434-1446.	5.4	29
46	X-Ray Phase-Contrast Tomography of Renal Ischemia-Reperfusion Damage. <i>PLoS ONE</i> , 2014, 9, e109562.	1.1	28
47	X-Ray Phase-Contrast CT of a Pancreatic Ductal Adenocarcinoma Mouse Model. <i>PLoS ONE</i> , 2013, 8, e58439.	1.1	28
48	Non-binary phase gratings for x-ray imaging with a compact Talbot interferometer. <i>Optics Express</i> , 2014, 22, 547.	1.7	27
49	Grating-based X-ray dark-field imaging: a new paradigm in radiography. <i>Current Radiology Reports</i> , 2014, 2, 1.	0.4	26
50	An algebraic iterative reconstruction technique for differential X-ray phase-contrast computed tomography. <i>Zeitschrift Fur Medizinische Physik</i> , 2013, 23, 186-193.	0.6	25
51	Comparison of Contrast-to-Noise Ratios of Transmission and Dark-Field Signal in Grating-Based X-ray Imaging for Healthy Murine Lung Tissue. <i>Zeitschrift Fur Medizinische Physik</i> , 2013, 23, 236-242.	0.6	24
52	3D Maps of Mineral Composition and Hydroxyapatite Orientation in Fossil Bone Samples Obtained by X-ray Diffraction Computed Tomography. <i>Scientific Reports</i> , 2018, 8, 10052.	1.6	24
53	Lung tumors on multimodal radiographs derived from grating-based X-ray imaging – A feasibility study. <i>Physica Medica</i> , 2014, 30, 352-357.	0.4	23
54	Visualization of subcutaneous insulin injections by x-ray computed tomography. <i>Physics in Medicine and Biology</i> , 2012, 57, 7191-7203.	1.6	22

#	ARTICLE	IF	CITATIONS
55	A reconstruction method for cone-beam differential x-ray phase-contrast computed tomography. <i>Optics Express</i> , 2012, 20, 21512.	1.7	19
56	Experimental validation of image contrast correlation between ultra-small-angle X-ray scattering and grating-based dark-field imaging using a laser-driven compact X-ray source. <i>Photonics & Lasers in Medicine</i> , 2012, 1, .	0.3	19
57	X-ray phase-contrast tomosynthesis for improved breast tissue discrimination. <i>European Journal of Radiology</i> , 2014, 83, 531-536.	1.2	19
58	Helical differential X-ray phase-contrast computed tomography. <i>Physica Medica</i> , 2014, 30, 374-379.	0.4	19
59	Non-iterative Directional Dark-field Tomography. <i>Scientific Reports</i> , 2017, 7, 3307.	1.6	19
60	Distinct types of plexiform lesions identified by synchrotron-based phase-contrast micro-CT. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2021, 321, L17-L28.	1.3	19
61	X-ray dark-field imaging modeling. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2012, 29, 908.	0.8	17
62	Three-dimensional architecture of human diabetic peripheral nerves revealed by X-ray phase contrast holographic nanotomography. <i>Scientific Reports</i> , 2020, 10, 7592.	1.6	17
63	A reconstruction method for equidistant fan beam differential phase contrast computed tomography. <i>Physics in Medicine and Biology</i> , 2011, 56, 4529-4538.	1.6	16
64	X-ray phase-contrast tomosynthesis of a human ex vivo breast slice with an inverse Compton x-ray source. <i>Europhysics Letters</i> , 2016, 116, 68003.	0.7	16
65	Iron oxide thin film growth on Al ₂ O ₃ /NiAl(110). <i>Surface Science</i> , 2006, 600, 5123-5130.	0.8	15
66	Front- and backside structuring of gratings for phase contrast imaging with x-ray tubes. <i>Proceedings of SPIE</i> , 2010, , .	0.8	15
67	3D Algebraic Iterative Reconstruction for Cone-Beam X-Ray Differential Phase-Contrast Computed Tomography. <i>PLoS ONE</i> , 2015, 10, e0117502.	1.1	15
68	Detection of sub-pixel fractures in X-ray dark-field tomography. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 121, 1243-1250.	1.1	15
69	The compositional and nano-structural basis of fracture healing in healthy and osteoporotic bone. <i>Scientific Reports</i> , 2018, 8, 1591.	1.6	15
70	Numerical comparison of X-ray differential phase contrast and attenuation contrast. <i>Biomedical Optics Express</i> , 2012, 3, 1141.	1.5	13
71	Three-dimensional imaging of whole mouse models: comparing nondestructive X-ray phase-contrast micro-CT with cryotome-based planar epi-illumination imaging. <i>Journal of Microscopy</i> , 2014, 253, 24-30.	0.8	13
72	Ex Vivo Perfusion-Simulation Measurements of Microbubbles as a Scattering Contrast Agent for Grating-Based X-Ray Dark-Field Imaging. <i>PLoS ONE</i> , 2015, 10, e0129512.	1.1	13

#	ARTICLE	IF	CITATIONS
73	Imaging of Metastatic Lymph Nodes by X-ray Phase-Contrast Micro-Tomography. PLoS ONE, 2013, 8, e54047.	1.1	13
74	Cone-beam differential phase-contrast laminography with x-ray tube source. Europhysics Letters, 2014, 106, 68002.	0.7	12
75	X-ray tomography using the full complex index of refraction. Physics in Medicine and Biology, 2012, 57, 5971-5979.	1.6	11
76	Super-resolution x-ray phase-contrast and dark-field imaging with a single 2D grating and electromagnetic source stepping. Physics in Medicine and Biology, 2019, 64, 165009.	1.6	11
77	Iterative reconstruction for few-view grating-based phase-contrast CT – An in vitro mouse model. Europhysics Letters, 2013, 102, 48001.	0.7	10
78	Prediction of beam hardening artefacts in computed tomography using Monte Carlo simulations. Nuclear Instruments & Methods in Physics Research B, 2015, 342, 314-320.	0.6	10
79	Phase-unwrapping of differential phase-contrast data using attenuation information. , 2011, , .		8
80	Mapping structural gradients in isotactic polypropylene using scanning wide-angle X-ray scattering. Polymer, 2013, 54, 1867-1875.	1.8	8
81	Computer-aided diagnosis of pulmonary diseases using x-ray darkfield radiography. Physics in Medicine and Biology, 2015, 60, 9253-9268.	1.6	8
82	Improved resolution in x-ray tomography by super-resolution. Applied Optics, 2021, 60, 5783.	0.9	8
83	Multimodal ex vivo methods reveal that Gd-rich corrosion byproducts remain at the implant site of biodegradable Mg-Gd screws. Acta Biomaterialia, 2021, 136, 582-591.	4.1	8
84	Copper nucleation on in the presence of sulphur. Surface Science, 2006, 600, 3375-3381.	0.8	7
85	X-ray in-line holography and holotomography at the NanoMAX beamline. Journal of Synchrotron Radiation, 2022, 29, 224-229.	1.0	7
86	Structure of a Model Dye/Titania Interface: Geometry of Benzoate on Rutile-TiO ₂ (110)(1 Å ⁻¹) Tj ETQq0,0 0 rgBT/Overlock	1.5	6
87	Contrast-to-noise ratio optimization for a prototype phase-contrast computed tomography scanner. Review of Scientific Instruments, 2015, 86, 123705.	0.6	5
88	Super-resolution X-ray imaging with hybrid pixel detectors using electromagnetic source stepping. Journal of Instrumentation, 2020, 15, C03002-C03002.	0.5	5
89	3D analysis of the myenteric plexus of the human bowel by X-ray phase-contrast tomography – a future method?. Scandinavian Journal of Gastroenterology, 2020, 55, 1261-1267.	0.6	5
90	Advances in the visualization of unstained brain tumors using grating-based x-ray phase-contrast tomography. , 2008, , .		3

#	ARTICLE	IF	CITATIONS
91	Small-animal dark-field radiography for pulmonary emphysema evaluation. , 2014, , .		3
92	Monitoring moisture distribution in textile materials using grating interferometry and ptychographic X-ray imaging. Textile Reseach Journal, 2015, 85, 80-90.	1.1	3
93	3d phase-contrast nanotomography of unstained human skin biopsies may identify morphological differences in the dermis and epidermis between subjects. Skin Research and Technology, 2021, 27, 316-323.	0.8	3
94	Biodegradable magnesium-based implants in bone studied by synchrotron radiation microtomography. , 2017, , .		3
95	First small-animal in-vivo phase-contrast micro-CT scanner. , 2012, , .		2
96	14C BOMB-PULSE DATING AND STABLE ISOTOPE ANALYSIS FOR GROWTH RATE AND DIETARY INFORMATION IN BREAST CANCER?. Radiation Protection Dosimetry, 2016, 169, 158-164.	0.4	2
97	Material Decomposition in Low-Energy Micro-CT Using a Dual-Threshold Photon Counting X-Ray Detector. Frontiers in Physics, 2021, 9, .	1.0	2
98	TH-A-213CD-04: A Bone Artifact Reduction Algorithm for Differential Phase-Contrast CT Based On Statistical Iterative Reconstruction. Medical Physics, 2012, 39, 3987-3987.	1.6	2
99	Advanced methods in scanning x-ray microscopy. , 2009, , .		1
100	X-ray Grating Interferometry at ESRF: Applications and Recent Technical Developments. , 2011, , .		1
101	Compressed sensing for phase contrast CT. , 2012, , .		1
102	Preclinical x-ray dark-field radiography for pulmonary emphysema evaluation. , 2013, , .		1
103	Monochromatic computed tomography with a compact laser-driven X-ray source. , 0, .		1
104	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
105	Sub-micrometer morphology of human atherosclerotic plaque revealed by synchrotron radiation-based $\frac{1}{4}$ CT A comparison with histology. PLoS ONE, 2022, 17, e0265598.	1.1	1
106	Quantitative multimodal x-ray tomography: absorption, phase, and darkfield contrast. Proceedings of SPIE, 2010, , .	0.8	0
107	X-ray vector radiography imaging for biomedical applications. , 2012, , .		0
108	Results from the first preclinical CT scanner with grating based phase contrast and a rotating gantry. , 2012, , .		0

#	ARTICLE	IF	CITATIONS
109	Compressed sensing for phase-contrast computed tomography. Proceedings of SPIE, 2012, , .	0.8	0
110	X-ray Generation by Relativistic Laser-Accelerated Electrons. , 2014, , .		0
111	Design of a compact high-energy setup for x-ray phase-contrast imaging. Proceedings of SPIE, 2014, , .	0.8	0
112	Synchrotron Phase Contrast Micro-CT as a Novel Tool for Understanding Pulmonary Vascular Pathobiology and the 3D Micro-Anatomy of Alveolar Capillary Dysplasia with Misaligned Pulmonary Veins. , 2019, , .		0
113	SU-E-I-162: Quantitative Analysis of Human Soft Tissue Using Grating-Based X- Ray Phase Contrast. Medical Physics, 2011, 38, 3433-3433.	1.6	0
114	SU-C-211-01: First Results from a Preclinical X-Ray Phase-Contrast CT Scanner. Medical Physics, 2011, 38, 3375-3375.	1.6	0
115	Positioning, Enzymatic Processing and Binding Partners of Versican in Vascular Lesions of Pulmonary Arterial Hypertension. , 2022, , .		0