Paola Coan

List of Publications by Year in descending order

85 papers	2,716 citations	172207 29 h-index	182168 51 g-index
87 all docs	87 docs citations	87 times ranked	2029 citing authors

#	Article	IF	Citations
1	X-ray phase-contrast imaging: from pre-clinical applications towards clinics. Physics in Medicine and Biology, 2013, 58, R1-R35.	1.6	582
2	High-resolution, low-dose phase contrast X-ray tomography for 3D diagnosis of human breast cancers. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 18290-18294.	3.3	185
3	A method to extract quantitative information in analyzer-based x-ray phase contrast imaging. Applied Physics Letters, 2003, 82, 3421-3423.	1.5	172
4	Quantitative comparison between two phase contrast techniques: diffraction enhanced imaging and phase propagation imaging. Physics in Medicine and Biology, 2005, 50, 709-724.	1.6	109
5	Theoretical comparison of three X-ray phase-contrast imaging techniques: propagation-based imaging, analyzer-based imaging and grating interferometry. Optics Express, 2012, 20, 2789.	1.7	88
6	Evaluation of imaging performance of a taper optics CCD `FReLoN' camera designed for medical imaging. Journal of Synchrotron Radiation, 2006, 13, 260-270.	1.0	87
7	Cartilage and Soft Tissue Imaging Using X-rays. Investigative Radiology, 2014, 49, 627-634.	3.5	67
8	X-Ray Phase Contrast Tomography Reveals Early Vascular Alterations and Neuronal Loss in a Multiple Sclerosis Model. Scientific Reports, 2017, 7, 5890.	1.6	64
9	Characterization of Osteoarthritic and Normal Human Patella Cartilage by Computed Tomography X-ray Phase-Contrast Imaging. Investigative Radiology, 2010, 45, 437-444.	3.5	63
10	Advances in synchrotron hard X-ray based imaging. Comptes Rendus Physique, 2008, 9, 624-641.	0.3	60
11	High-resolution breast tomography at high energy: a feasibility study of phase contrast imaging on a whole breast. Physics in Medicine and Biology, 2012, 57, 2931-2942.	1.6	55
12	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
13	Phase-contrast x-ray imaging of the breast: recent developments towards clinics. Journal Physics D: Applied Physics, 2013, 46, 494007.	1.3	49
14	Deep transfer learning for characterizing chondrocyte patterns in phase contrast X-Ray computed tomography images of the human patellar cartilage. Computers in Biology and Medicine, 2018, 95, 24-33.	3.9	47
15	Phase-contrast X-ray imaging combining free space propagation and Bragg diffraction. Journal of Synchrotron Radiation, 2005, 12, 241-245.	1.0	41
16	On qualitative and quantitative analysis in analyser-based imaging. Acta Crystallographica Section A: Foundations and Advances, 2006, 62, 296-308.	0.3	41
17	Relics in medieval altarpieces? Combining X-ray tomographic, laminographic and phase-contrast imaging to visualize thin organic objects in paintings. Journal of Synchrotron Radiation, 2008, 15, 55-61.	1.0	41
18	Radiation dose in breast CT imaging with monochromatic x-rays: simulation study of the influence of energy, composition and thickness. Physics in Medicine and Biology, 2014, 59, 2199-2217.	1.6	41

#	Article	IF	Citations
19	Analyzer-based imaging technique in tomography of cartilage and metal implants: A study at the ESRF. European Journal of Radiology, 2008, 68, S41-S48.	1.2	40
20	Computer-Aided Diagnosis in Phase Contrast Imaging X-Ray Computed Tomography for Quantitative Characterization of ex vivo Human Patellar Cartilage. IEEE Transactions on Biomedical Engineering, 2013, 60, 2896-2903.	2.5	40
21	Characterization of a sCMOS-based high-resolution imaging system. Journal of Synchrotron Radiation, 2017, 24, 1226-1236.	1.0	40
22	Visualization of pigment distributions in paintings using synchrotron K-edge imaging. Applied Physics A: Materials Science and Processing, 2006, 83, 247-251.	1.1	39
23	Absorption, refraction and scattering in analyzer-based imaging: comparison of different algorithms. Optics Express, 2010, 18, 3494.	1.7	39
24	Qualitative evaluation of titanium implant integration into bone by diffraction enhanced imaging. Physics in Medicine and Biology, 2006, 51, 1313-1324.	1.6	38
25	In vivox-ray phase contrast analyzer-based imaging for longitudinal osteoarthritis studies in guinea pigs. Physics in Medicine and Biology, 2010, 55, 7649-7662.	1.6	38
26	Computer-Aided Diagnosis for Phase-Contrast X-ray Computed Tomography: Quantitative Characterization of Human Patellar Cartilage with High-Dimensional Geometric Features. Journal of Digital Imaging, 2014, 27, 98-107.	1.6	36
27	High contrast microstructural visualization of natural acellular matrices by means of phase-based x-ray tomography. Scientific Reports, 2016, 5, 18156.	1.6	36
28	Comparison between a position sensitive germanium detector and a taper optics CCD â€œFRELONâ€•camera for diffraction enhanced imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 510, 35-40.	0.7	34
29	Single-image phase retrieval using an edge illumination X-ray phase-contrast imaging setup. Journal of Synchrotron Radiation, 2015, 22, 1072-1077.	1.0	33
30	A simplified approach for computed tomography with an X-ray grating interferometer. Optics Express, 2011, 19, 1691.	1.7	32
31	Virtual unrolling and deciphering of Herculaneum papyri by X-ray phase-contrast tomography. Scientific Reports, 2016, 6, 27227.	1.6	27
32	A method for high-energy, low-dose mammography using edge illumination x-ray phase-contrast imaging. Physics in Medicine and Biology, 2016, 61, 8750-8761.	1.6	25
33	Options and limitations of joint cartilage imaging: DEI in comparison to MRI and sonography. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 548, 47-53.	0.7	23
34	Micro-imaging of Brain Cancer Radiation Therapy Using Phase-contrast Computed Tomography. International Journal of Radiation Oncology Biology Physics, 2018, 101, 965-984.	0.4	21
35	High-Spatial-Resolution Three-dimensional Imaging of Human Spinal Cord and Column Anatomy with Postmortem X-ray Phase-Contrast Micro-CT. Radiology, 2021, 298, 135-146.	3.6	21
36	Multiscale pink-beam microCT imaging at the ESRF-ID17 biomedical beamline. Journal of Synchrotron Radiation, 2020, 27, 1347-1357.	1.0	21

#	Article	IF	Citations
37	Comparison of analyzer-based imaging computed tomography extraction algorithms and application to bone-cartilage imaging. Physics in Medicine and Biology, 2010, 55, 7663-7679.	1.6	19
38	An efficient numerical tool for dose deposition prediction applied to synchrotron medical imaging and radiation therapy. Journal of Synchrotron Radiation, 2013, 20, 785-792.	1.0	19
39	Multiscale X-ray phase contrast imaging of human cartilage for investigating osteoarthritis formation. Journal of Biomedical Science, 2021, 28, 42.	2.6	19
40	A single-image retrieval method for edge illumination X-ray phase-contrast imaging: Application and noise analysis. Physica Medica, 2016, 32, 1759-1764.	0.4	16
41	Performance of the K-edge digital subtraction angiography imaging system at the European synchrotron radiation facility. Radiation Protection Dosimetry, 2005, 117, 44-49.	0.4	14
42	On the possibility of quantitative refractive-index tomography of large biomedical samples with hard X-rays. Biomedical Optics Express, 2013, 4, 1512.	1.5	14
43	A Dictionary Learning Approach with Overlap for the Low Dose Computed Tomography Reconstruction and Its Vectorial Application to Differential Phase Tomography. PLoS ONE, 2014, 9, e114325.	1.1	14
44	Tomographic reconstruction of the refractive index with hard X-rays: an efficient method based on the gradient vector-field approach. Optics Express, 2014, 22, 5216.	1.7	14
45	A track length estimator method for dose calculations in low-energy X-ray irradiations: implementation, properties and performance. Zeitschrift Fur Medizinische Physik, 2015, 25, 36-47.	0.6	14
46	Quantitative Assessment of Degenerative Cartilage and Subchondral Bony Lesions in a Preserved Cadaveric Knee: Propagation-Based Phase-Contrast CT Versus Conventional MRI and CT. American Journal of Roentgenology, 2018, 210, 1317-1322.	1.0	14
47	A numerical wave-optical approach for the simulation of analyzer-based x-ray imaging. Optics Express, 2007, 15, 5641.	1.7	10
48	A continuous sampling scheme for edge illumination x-ray phase contrast imaging. Journal of Applied Physics, 2015, 118, .	1.1	10
49	Integrating Dimension Reduction and Out-of-Sample Extension in Automated Classification of Ex Vivo Human Patellar Cartilage on Phase Contrast X-Ray Computed Tomography. PLoS ONE, 2015, 10, e0117157.	1.1	10
50	Image quality evaluation of the angiography imaging system at the European synchrotron radiation facility. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 510, 45-50.	0.7	9
51	State of the Art and Perspectives of Biomedical Imaging at the ESRF. Synchrotron Radiation News, 2008, 21, 30-41.	0.2	7
52	Synchrotron-generated microbeams induce hippocampal transections in rats. Scientific Reports, 2018, 8, 184.	1.6	7
53	Phase contrast medical imaging with compact X-ray sources at the Munich-Centre for Advance Photonics (MAP). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 608, S44-S46.	0.7	6
54	In-line phase-contrast stereoscopic X-ray imaging for radiological purposes: An initial experimental study. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 629, 345-349.	0.7	6

#	Article	IF	Citations
55	Breast tumor segmentation in high resolution xâ€ray phase contrast analyzer based computed tomography. Medical Physics, 2014, 41, 111902.	1.6	6
56	Establishing sample-preparation protocols for X-ray phase-contrast CT of rodent spinal cords: Aldehyde fixations and osmium impregnation. Journal of Neuroscience Methods, 2020, 339, 108744.	1.3	6
57	A Novel and Sensitive Approach for the Evaluation of Liver Ischemia-Reperfusion Injury After Liver Transplantation. Investigative Radiology, 2016, 51, 170-176.	3.5	5
58	Low-dose quantitative phase contrast medical CT. Measurement Science and Technology, 2018, 29, 024006.	1.4	5
59	Convolutional neuronal networks combined with X-ray phase-contrast imaging for a fast and observer-independent discrimination of cartilage and liver diseases stages. Scientific Reports, 2020, 10, 20007.	1.6	5
60	TomoPressâ€”In Situ Synchrotron-Based Microtomography under Axial Load. Instruments, 2020, 4, 11.	0.8	4
61	A Multi-Scale and Multi-Technique Approach for the Characterization of the Effects of Spatially Fractionated X-ray Radiation Therapies in a Preclinical Model. Cancers, 2021, 13, 4953.	1.7	4
62	Evaluation of two phase contrast techniques: diffraction-enhanced imaging and propagation. , 2003, , .		3
63	Analysis of the x-ray refraction using an array-structured detector. Applied Physics Letters, 2007, 90, 184106.	1.5	3
64	A single-image method for x-ray refractive index CT. Physics in Medicine and Biology, 2015, 60, 3433-3440.	1.6	3
65	Boundary value problem for phase retrieval from unidirectional X-ray differential phase images. Optics Express, 2015, 23, 13294.	1.7	3
66	Detection of Post-Therapeutic Effects in Breast Carcinoma Using Hard X-Ray Index of Refraction Computed Tomography â€“ A Feasibility Study. PLoS ONE, 2016, 11, e0158306.	1.1	3
67	Chance and limit of imaging of articular cartilage in vitro in healthy and arthritic joints: DEI (diffraction enhanced imaging) in comparison with MRI, CT, and ultrasound. , 2005, , .		2
68	Volumetric characterization of human patellar cartilage matrix on phase contrast x-ray computed tomography. , 2015, 9417, .		2
69	Hard X-ray index of refraction tomography of a whole rabbit knee joint: A feasibility study. Physica Medica, 2016, 32, 1785-1789.	0.4	2
70	Synchrotron Radiation Computed Tomography Station at the ESRF Biomedical Beamline. AIP Conference Proceedings, 2007, , .	0.3	1
71	Technical Report: Biomedical Research at the ESRF: From DNA to Human. Synchrotron Radiation News, 2007, 20, 25-31.	0.2	1
72	X-ray phase contrast imaging of objects with subpixel-size inhomogeneities: a geometrical optics model. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 1870.	0.8	1

#	Article	IF	Citations
73	Characterizing healthy and osteoarthritic knee cartilage on phase contrast CT with geometric texture features. Proceedings of SPIE, 2013, 8672, .	0.8	1
74	Phase contrast imaging X-ray computed tomography: quantitative characterization of human patellar cartilage matrix with topological and geometrical features. , 2014, 9038, .		1
75	Volumetric quantitative characterization of human patellar cartilage with topological and geometrical features on phase-contrast X-ray computed tomography. Medical and Biological Engineering and Computing, 2015, 53, 1211-1220.	1.6	1
76	Characterizing cartilage microarchitecture on phase-contrast x-ray computed tomography using deep learning with convolutional neural networks. , 2017, , .		1
77	X-ray Phase Contrast 3D virtual histology: evaluation of lung alterations after micro-beam irradiation. International Journal of Radiation Oncology Biology Physics, 2021, , .	0.4	1
78	Quantitative comparison between two phase contrast techniques: diffraction enhanced imaging and phase propagation imaging. Physics in Medicine and Biology, 2006, 51, 1957-1957.	1.6	0
79	Absorption, Refraction and Scattering in Analyzer-Based Imaging: Comparison of Different Extraction Algorithms. , 2010, , .		0
80	Imaging of the angular-dependent coherent-scatter cross section with analyzer crystal: a Monte Carlo simulation. Optics Letters, 2011, 36, 2785.	1.7	0
81	Characterization of healthy and osteoarthritic chondrocyte cell patterns on phase contrast CT images of the knee cartilage matrix. , 2012, , .		0
82	Frontiers of phase-contrast computed tomography. Acta Crystallographica Section A: Foundations and Advances, 2015, 71, s153-s153.	0.0	0
83	Strategies for fast and low-dose laboratory-based phase contrast tomography for microstructural scaffold analysis in tissue engineering. Proceedings of SPIE, 2016, , .	0.8	0
84	Phase contrast imaging for medical diagnostics: towards clinical application with compact laser-based X-ray sources. IFMBE Proceedings, 2009, , 200-203.	0.2	0
85	SU-E-I-144: Radiation Dose Reduction in Monochromatic Phase Contrast X-Ray Mammography Using Equally Sloped Tomography. Medical Physics, 2011, 38, 3429-3429.	1.6	0