

Peter Burgholzer

List of Publications by Year in descending order

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168
papers

2,604
citations

218677

26
h-index

223800

46
g-index

171
all docs

171
docs citations

171
times ranked

1331
citing authors

#	ARTICLE	IF	CITATIONS
1	Exact and approximative imaging methods for photoacoustic tomography using an arbitrary detection surface. <i>Physical Review E</i> , 2007, 75, 046706.	2.1	166
2	Photoacoustic tomography using a Mach-Zehnder interferometer as an acoustic line detector. <i>Applied Optics</i> , 2007, 46, 3352.	2.1	156
3	Temporal back-projection algorithms for photoacoustic tomography with integrating line detectors. <i>Inverse Problems</i> , 2007, 23, S65-S80.	2.0	125
4	Thermoacoustic computed tomography with large planar receivers. <i>Inverse Problems</i> , 2004, 20, 1663-1673.	2.0	124
5	Experimental evaluation of reconstruction algorithms for limited view photoacoustic tomography with line detectors. <i>Inverse Problems</i> , 2007, 23, S81-S94.	2.0	116
6	Thermoacoustic tomography with integrating area and line detectors. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2005, 52, 1577-1583.	3.0	100
7	THERMOACOUSTIC TOMOGRAPHY AND THE CIRCULAR RADON TRANSFORM: EXACT INVERSION FORMULA. <i>Mathematical Models and Methods in Applied Sciences</i> , 2007, 17, 635-655.	3.3	78
8	Non-contact photoacoustic imaging using a fiber based interferometer with optical amplification. <i>Biomedical Optics Express</i> , 2013, 4, 2322.	2.9	72
9	Polarisation-sensitive optical coherence tomography for material characterisation and strain-field mapping. <i>Applied Physics A: Materials Science and Processing</i> , 2003, 76, 947-951.	2.3	64
10	Remote photoacoustic imaging on solid material using a two-wave mixing interferometer. <i>Optics Letters</i> , 2010, 35, 4151.	3.3	60
11	Three-dimensional photoacoustic imaging using fiber-based line detectors. <i>Journal of Biomedical Optics</i> , 2010, 15, 021306.	2.6	56
12	Three-dimensional thermographic imaging using a virtual wave concept. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	56
13	Weight factors for limited angle photoacoustic tomography. <i>Physics in Medicine and Biology</i> , 2009, 54, 3303-3314.	3.0	53
14	Super-resolution photoacoustic microscopy using blind structured illumination. <i>Optica</i> , 2017, 4, 17.	9.3	46
15	Compressed sensing and sparsity in photoacoustic tomography. <i>Journal of Optics (United Kingdom)</i> , 2016, 18, 114004.	2.2	45
16	Comparison of surface plasmon resonance devices for acoustic wave detection in liquid. <i>Optics Express</i> , 2007, 15, 6087.	3.4	44
17	Photoacoustic microtomography using optical interferometric detection. <i>Journal of Biomedical Optics</i> , 2010, 15, 021307.	2.6	43
18	A Novel Compressed Sensing Scheme for Photoacoustic Tomography. <i>SIAM Journal on Applied Mathematics</i> , 2015, 75, 2475-2494.	1.8	41

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19	Characterization of broadband fiber optic line detectors for photoacoustic tomography. Journal of Biophotonics, 2012, 5, 518-528.	2.3	39
20	Two-photon absorption-induced photoacoustic imaging of Rhodamine B dyed polyethylene spheres using a femtosecond laser. Optics Express, 2013, 21, 22410.	3.4	38
21	Numerical modeling of thermoelastic generation of ultrasound by laser irradiation in the coupled thermoelasticity. Ultrasonics, 2013, 53, 141-149.	3.9	37
22	Photoacoustic imaging using an adaptive interferometer with a photorefractive crystal. Journal of Biophotonics, 2012, 5, 508-517.	2.3	35
23	Compensation of acoustic attenuation for high-resolution photoacoustic imaging with line detectors. , 2007, , .		34
24	Characterization of integrating ultrasound detectors for photoacoustic tomography. Journal of Applied Physics, 2009, 105, 102026.	2.5	34
25	Focusing and subwavelength imaging of surface acoustic waves in a solid-air phononic crystal. Journal of Applied Physics, 2012, 112, .	2.5	30
26	Thermodynamic Limits of Spatial Resolution in Active Thermography. International Journal of Thermophysics, 2015, 36, 2328-2341.	2.1	28
27	Downstream Fabry-Perot interferometer for acoustic wave monitoring in photoacoustic tomography. Optics Letters, 2011, 36, 981.	3.3	27
28	A sparsification and reconstruction strategy for compressed sensing photoacoustic tomography. Journal of the Acoustical Society of America, 2018, 143, 3838-3848.	1.1	27
29	Spatial and temporal frequency domain laser-ultrasound applied in the direct measurement of dispersion relations of surface acoustic waves. Applied Physics Letters, 2013, 102, 011103.	3.3	25
30	Deblurring algorithms accounting for the finite detector size in photoacoustic tomography. Journal of Biomedical Optics, 2014, 19, 056011.	2.6	23
31	Remote mid-infrared photoacoustic spectroscopy with a quantum cascade laser. Optics Letters, 2015, 40, 3476.	3.3	23
32	Characterization of the spatio-temporal response of optical fiber sensors to incident spherical waves. Journal of the Acoustical Society of America, 2014, 135, 1853-1862.	1.1	22
33	Super-resolution thermographic imaging using blind structured illumination. Applied Physics Letters, 2017, 111, .	3.3	22
34	Comparison of optical and piezoelectric integrating line detectors. Proceedings of SPIE, 2009, , .	0.8	20
35	Piezoelectric annular array for large depth of field photoacoustic imaging. Biomedical Optics Express, 2011, 2, 2655.	2.9	20
36	On the crossing points of the Lamb modes and the maxima and minima of displacements observed at the surface. Ultrasonics, 2014, 54, 759-762.	3.9	18

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37	Parameter estimation from pulsed thermography data using the virtual wave concept. NDT and E International, 2018, 100, 101-107.	3.7	18
38	Photoacoustic tomography using a fiber based Fabry-Perot interferometer as an integrating line detector and image reconstruction by model-based time reversal method. , 2007, , .		17
39	Broadband high-frequency measurement of ultrasonic attenuation of tissues and liquids. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 2631-45.	3.0	17
40	Fiber-optic annular detector array for large depth of field photoacoustic macroscopy. Photoacoustics, 2017, 5, 1-9.	7.8	17
41	Deep learning approaches for thermographic imaging. Journal of Applied Physics, 2020, 128, .	2.5	17
42	Limits of Spatial Resolution for Thermography and Other Non-destructive Imaging Methods Based on Diffusion Waves. International Journal of Thermophysics, 2013, 34, 1617-1632.	2.1	16
43	Laser ultrasonic receivers based on organic photorefractive polymer composites. Applied Physics B: Lasers and Optics, 2014, 114, 509-515.	2.2	16
44	Sounding out fluorescent proteins. Nature Photonics, 2009, 3, 378-379.	31.4	15
45	Scanning acoustic-photoacoustic microscopy using axicon transducers. Biomedical Optics Express, 2010, 1, 318.	2.9	15
46	Experimental evaluation of time domain models for ultrasound attenuation losses in photoacoustic imaging. Journal of the Acoustical Society of America, 2012, 131, 3763-3774.	1.1	15
47	Super resolution laser line scanning thermography. Optics and Lasers in Engineering, 2020, 134, 106279.	3.8	15
48	Laser-generation of ultrasonic X-waves using axicon transducers. Applied Physics Letters, 2009, 94, .	3.3	14
49	Efficient modeling and compensation of ultrasound attenuation losses in photoacoustic imaging. Inverse Problems, 2011, 27, 015003.	2.0	14
50	A webcam in Bayer-mode as a light beam profiler for the near infra-red. Optics and Lasers in Engineering, 2013, 51, 571-575.	3.8	14
51	Resolution Limits in Photoacoustic Imaging Caused by Acoustic Attenuation. Journal of Imaging, 2019, 5, 13.	3.0	13
52	Linking information theory and thermodynamics to spatial resolution in photothermal and photoacoustic imaging. Journal of Applied Physics, 2020, 128, .	2.5	13
53	Photothermal super resolution imaging: A comparison of different thermographic reconstruction techniques. NDT and E International, 2020, 111, 102228.	3.7	13
54	Photoacoustic reconstruction from photothermal measurements including prior information. Photoacoustics, 2020, 19, 100175.	7.8	13

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55	Photoacoustic tomography of heterogeneous media using a model-based time reversal method. , 2008, , .		12
56	Photothermal image reconstruction in opaque media with virtual wave backpropagation. NDT and E International, 2020, 112, 102239.	3.7	12
57	Laser excited super resolution thermal imaging for nondestructive inspection of internal defects. Scientific Reports, 2020, 10, 22357.	3.3	12
58	Polarisation-sensitive optical coherence tomography for material characterisation and testing. Insight: Non-Destructive Testing and Condition Monitoring, 2005, 47, 209-212.	0.6	11
59	Photoacoustic tomography using integrating line detectors. Journal of Physics: Conference Series, 2010, 214, 012009.	0.4	11
60	Converging Laser Generated Ultrasonic Waves using Annular Patterns Irradiation. Journal of Physics: Conference Series, 2014, 520, 012001.	0.4	11
61	In-situ monitoring of phase transformation in Ti-6Al-6V-2Sn using laser ultrasonics. Nondestructive Testing and Evaluation, 2018, 33, 130-138.	2.1	11
62	Multidimensional Reconstruction of Internal Defects in Additively Manufactured Steel Using Photothermal Super Resolution Combined With Virtual Wave-Based Image Processing. IEEE Transactions on Industrial Informatics, 2021, 17, 7368-7378.	11.3	11
63	Non-contact determination of elastic moduli of continuous fiber reinforced metals. Composites Science and Technology, 2005, 65, 301-306.	7.8	10
64	Information changes and time reversal for diffusion-related periodic fields. Proceedings of SPIE, 2009, , .	0.8	10
65	Breaking the resolution limit in photoacoustic imaging using non-negativity and sparsity. Photoacoustics, 2020, 19, 100191.	7.8	10
66	Thermoacoustic tomography using a fiber-based Fabry-Perot interferometer as an integrating line detector. , 2006, , .		9
67	Three-dimensional photoacoustic tomography using acoustic line detectors. , 2007, , .		9
68	Determination of nanometer vibration amplitudes by using a homodyne photorefractive crystal interferometer. Procedia Engineering, 2010, 5, 299-302.	1.2	9
69	Image reconstruction in photoacoustic tomography using integrating detectors accounting for frequency-dependent attenuation. Proceedings of SPIE, 2010, , .	0.8	9
70	Laser ultrasonic velocity measurement for phase transformation investigation in titanium alloy. , 2013, , .		9
71	Blind structured illumination as excitation for super-resolution photothermal radiometry. Quantitative InfraRed Thermography Journal, 2020, 17, 268-278.	4.2	9
72	Fiber-based detectors for photoacoustic imaging. Proceedings of SPIE, 2009, , .	0.8	8

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73	Photothermal testing of composite materials: Virtual wave concept with prior information for parameter estimation and image reconstruction. Journal of Applied Physics, 2020, 128, .	2.5	8
74	Photoacoustic microscopy with large integrating optical annular detectors. , 2009, , .		7
75	Low-cost parallelization of optical fiber based detectors for photoacoustic imaging. Proceedings of SPIE, 2013, , .	0.8	7
76	Acoustic Reconstruction for Photothermal Imaging. Bioengineering, 2018, 5, 70.	3.5	7
77	Polymer fiber detectors for photoacoustic imaging. Proceedings of SPIE, 2010, , .	0.8	6
78	Quasi-balanced two-wave mixing interferometer for remote ultrasound detection. Journal of Modern Optics, 2013, 60, 1327-1331.	1.3	6
79	Photoacoustic projection imaging using a 64-channel fiber optic detector array. Proceedings of SPIE, 2015, , .	0.8	6
80	Photothermal Porosity Estimation in CFRP by the Time-of-Flight of Virtual Waves. Journal of Nondestructive Evaluation, 2020, 39, 1.	2.4	6
81	Extension of the Thermographic Signal Reconstruction Technique for an Automated Segmentation and Depth Estimation of Subsurface Defects. Journal of Imaging, 2020, 6, 96.	3.0	6
82	3D photothermal imaging of subsurface defects in composite materials. NDT and E International, 2021, 122, 102476.	3.7	6
83	Scanning acoustic-photoacoustic microscopy using axicon transducers. Biomedical Optics Express, 2010, 1, 318-323.	2.9	6
84	Photoacoustic imaging with integrating line detectors. Proceedings of SPIE, 2009, , .	0.8	5
85	Sparsifying transformations of photoacoustic signals enabling compressed sensing algorithms. , 2016, , .		5
86	Thermoacoustic tomography using integrating detectors. , 2005, , .		4
87	Integrated waveguide sensor for acoustic wave detection in photoacoustic tomography. , 2008, , .		4
88	Optimizing image resolution in three-dimensional photoacoustic tomography with line detectors. Proceedings of SPIE, 2008, , .	0.8	4
89	Photoacoustic generation of X-waves and their application in a dual mode scanning acoustic microscope. , 2009, , .		4
90	Three dimensional photoacoustic imaging using fiber-based line detectors. Journal of Physics: Conference Series, 2010, 214, 012029.	0.4	4

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91	Compensation of Ultrasound Attenuation in Photoacoustic Imaging. , 0, , .		4
92	Ultrasonic attenuation of biomaterials for compensation in photoacoustic imaging. Proceedings of SPIE, 2011, , .	0.8	4
93	Detection and reconstruction of solidification cracks “ Laser ultrasonic measurements during the continuous casting process of aluminum. AIP Conference Proceedings, 2014, , .	0.4	4
94	NETT regularization for compressed sensing photoacoustic tomography. , 2019, , .		4
95	Heat diffusion blurs photothermal images with increasing depth. Journal of Applied Physics, 2022, 131, .	2.5	4
96	Thermoacoustic tomography using optical line detection. , 2005, , .		3
97	3H-1 Sensitivity of Surface Plasmon Resonance Sensors for the Measurement of Acoustic Transients in Liquids. , 2006, , .		3
98	Remote photoacoustic imaging for material inspection. Journal of Physics: Conference Series, 2011, 278, 012034.	0.4	3
99	Reconstruction algorithms for remote photoacoustic imaging. , 2012, , .		3
100	Deconvolution algorithms for photoacoustic tomography to reduce blurring caused by finite sized detectors. Proceedings of SPIE, 2013, , .	0.8	3
101	Remote photoacoustic imaging on non-flat surfaces and appropriate reconstruction algorithms. , 2013, , .		3
102	Characterization of the spatio-temporal response of optical fiber sensors to incident spherical waves. , 2014, , .		3
103	Characterization of the Spatio-temporal Response of Optical Fiber Sensors to Incident Spherical Waves. Physics Procedia, 2015, 70, 155-158.	1.2	3
104	A Hybrid Approach for Thermographic Imaging With Deep Learning. , 2020, , .		3
105	Photoacoustic Microscopy With Large Integrating Optical Annular Detectors. , 2009, , .		3
106	3D photothermal imaging of real subsurface defects in anisotropic media. Journal of Applied Physics, 2021, 130, .	2.5	3
107	Thermoacoustic tomography using integrating line detectors. , 0, , .		2
108	Development of waveguide sensors for the application in photoacoustic tomography. Proceedings of SPIE, 2007, , .	0.8	2

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109	Photoacoustic tomography using a fiber based Fabry-Perot interferometer as an integrating line detector and image reconstruction by model-based time reversal method. , 2007, , .		2
110	Remote ultrasound detection with a quasi-balanced confocal Fabry-Perot interferometer. Nondestructive Testing and Evaluation, 2011, 26, 229-236.	2.1	2
111	Numerical and analytical modeling of optical fibers for ultrasound detection. , 2011, , .		2
112	Dual mode photoacoustic/acoustic microscopy with optical generation and detection. , 2012, , .		2
113	Characterization of thin layers using a frequency domain laser-ultrasonic system. , 2012, , .		2
114	On the relation between the crossings and maxima of Lamb waves. , 2013, , .		2
115	A linear state space model for photoacoustic imaging in an acoustic attenuating media. Inverse Problems, 2019, 35, 015003.	2.0	2
116	Surfing Virtual Waves to Thermal Tomography: From model- to deep learning-based reconstructions. IEEE Signal Processing Magazine, 2022, 39, 55-67.	5.6	2
117	On the Numerical Determination of Optimal Textures of Aluminium. Textures and Microstructures, 1994, 22, 177-186.	0.2	1
118	Photoacoustic imaging with limited diffraction beam transducers. , 2009, , .		1
119	Experimental determination of frequency dependent acoustic attenuation for photoacoustic imaging. Proceedings of SPIE, 2009, , .	0.8	1
120	Numerical modeling of thermoelastic laser-generation of ultrasonic waves. , 2011, , .		1
121	Rejection of crosstalk and noise by a quasi balanced CFPI for remote ultrasound detection. Journal of Physics: Conference Series, 2011, 278, 012039.	0.4	1
122	Photoacoustic tomography with integrating fiber-based annular detectors. , 2011, , .		1
123	Contactless photoacoustic imaging of biological samples. , 2012, , .		1
124	Single mode polymer fiber line detector for photoacoustic tomography. Proceedings of SPIE, 2012, , .	0.8	1
125	Direct measurement of SAW dispersion relations in the k - ω domains; numerical and experimental studies. , 2013, , .		1
126	Characterization of micro and nano layers using frequency domain laser-ultrasound. , 2013, , .		1

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127	Fiber-based remote photoacoustic imaging utilizing a Mach Zehnder interferometer with optical amplification. , 2014, , .		1
128	Application of SLM generated patterns for laser-ultrasound. , 2014, , .		1
129	Two-photon absorption-induced photoacoustic and luminescence imaging employing a femtosecond laser. , 2014, , .		1
130	Super-resolution photoacoustic microscopy using joint sparsity. Proceedings of SPIE, 2017, , .	0.8	1
131	Implementation and Use of a Laser-Ultrasonic System in a Deformation- and Quenching Dilatometer. Materials Science Forum, 2018, 941, 2423-2428.	0.3	1
132	chirped or time modulated excitation compared to short pulses for photoacoustic imaging in acoustic attenuating media. , 2018, , .		1
133	Photoacoustic Tomography with Integrating Area and Line Detectors. Optical Science and Engineering, 2009, , 251-263.	0.1	1
134	Thermoacoustic Tomography Using Integrating Detectors. , 2005, , .		1
135	Thermografische Rekonstruktion von internen WÄrmequellen mittels virtueller Schallwellen. Materialpruefung/Materials Testing, 2018, 60, 600-606.	2.2	1
136	Thermoacoustic imaging using time reversal. , 0, , .		1
137	Fiber-based Detectors for Photoacoustic Imaging. , 2009, , .		1
138	Employing 532 nm Wavelength in a Laser Ultrasound Interferometer Based on Photorefractive Polymer Composites. Open Access Library Journal (oalib), 2015, 02, 1-6.	0.2	1
139	Ring detector arrays for large depth of field scanning photoacoustic macroscopy. , 2018, , .		1
140	Breaking the resolution limit in photoacoustic imaging using positivity and sparsity. , 2020, , .		1
141	X-Ray Texture Measurements for Determining Quantitatively the Recrystallized Volume Fraction in Aluminium Alloys. Materials Science Forum, 1993, 113-115, 643-648.	0.3	0
142	Two-dimensional image reconstruction for photo-acoustic tomography with line detectors. Proceedings of SPIE, 2007, , .	0.8	0
143	Fiber-based broadband ultrasound detector for photoacoustic imaging. , 2011, , .		0
144	Operating point stabilization of fiber-based line detectors for photoacoustic imaging. Proceedings of SPIE, 2011, , .	0.8	0

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145	Annular piezoelectric ring array for photoacoustic imaging. , 2011, , .		0
146	Visualization of negative refraction of surface acoustic waves by numerical simulations and experiments. , 2011, , .		0
147	Spatial resolution and sensitivity in photoacoustic tomography taking noise into account: from point-like detectors to large integrating detectors. , 2012, , .		0
148	Center crack detection during continuous casting of aluminum by laser ultrasonic measurements. , 2014, , .		0
149	Laser ultrasound technology for fault detection on carbon fiber composites. , 2014, , .		0
150	Spatial over-sampling and its influence on spatial resolution for photoacoustic tomography with finite sized detectors. Proceedings of SPIE, 2014, , .	0.8	0
151	Surface Acoustic Wave-based Characterization of Randomly Distributed Surface Cracks. Physics Procedia, 2015, 70, 352-355.	1.2	0
152	Multimodal system for non-contact photoacoustic imaging, optical coherence tomography, and mid-infrared photoacoustic spectroscopy. Proceedings of SPIE, 2016, , .	0.8	0
153	Compressed sensing in photoacoustic imaging and application for planar detection geometries. , 2017, , .		0
154	Photoacoustic super-resolution microscopy using blind structured speckle illumination. Proceedings of SPIE, 2017, , .	0.8	0
155	Thermoacoustic Tomography Using Optical Line Detection. , 2005, , .		0
156	Two-dimensional image reconstruction for photoacoustic tomography with line detectors. , 2007, , .		0
157	Imaging of fiber layers using phonon focusing in fiber-reinforced composite materials. , 0, , .		0
158	Development of waveguide sensors for the application in photoacoustic tomography. , 2007, , .		0
159	Photoacoustic Generation of X-waves and their Application in a Dual Mode Scanning Acoustic Microscope. , 2009, , .		0
160	Experimental determination of frequency dependent acoustic attenuation for photoacoustic imaging. , 2009, , .		0
161	Photoacoustic imaging using a multiple piezoelectric ring detection system. , 2010, , .		0
162	Annular piezoelectric ring array for photoacoustic imaging. , 2011, , .		0

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163	Operating point stabilization of fiber-based line detectors for photoacoustic imaging. , 2011, , .		0
164	Integrating Detectors for Photoacoustic Imaging. , 0, , .		0
165	Photoacoustic scanning macroscopy with interferometric ultrasound detection based on a fiber-optic ring array. , 2018, , .		0
166	Investigation of delamination in carbon fiber reinforced plastic by means of pulse thermography, shearography and active thermography. Proceedings of Meetings on Acoustics, 2019, , .	0.3	0
167	Laser Ultrasonics. , 2019, , 1-26.		0
168	Sampling and resolution in sparse view photoacoustic tomography. , 2021, , .		0