Peter Burgholzer

List of Publications by Year
in descending order

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168	2,604	218677	223800
papers	citations	26 h-index	46 g-index

171	171	171	1331
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Surfing Virtual Waves to Thermal Tomography: From model- to deep learning-based reconstructions. IEEE Signal Processing Magazine, 2022, 39, 55-67.	5.6	2
2	Heat diffusion blurs photothermal images with increasing depth. Journal of Applied Physics, 2022, 131, .	2.5	4
3	3D photothermal imaging of subsurface defects in composite materials. NDT and E International, 2021, 122, 102476.	3.7	6
4	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
5	3D photothermal imaging of real subsurface defects in anisotropic media. Journal of Applied Physics, 2021, 130, .	2.5	3
6	Sampling and resolution in sparse view photoacoustic tomography. , 2021, , .		0
7	Blind structured illumination as excitation for super-resolution photothermal radiometry. Quantitative InfraRed Thermography Journal, 2020, 17, 268-278.	4.2	9
8	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
9	Deep learning approaches for thermographic imaging. Journal of Applied Physics, 2020, 128, .	2.5	17
10	Photothermal Porosity Estimation in CFRP by the Time-of-Flight of Virtual Waves. Journal of Nondestructive Evaluation, 2020, 39, 1.	2.4	6
11	Linking information theory and thermodynamics to spatial resolution in photothermal and photoacoustic imaging. Journal of Applied Physics, 2020, 128, .	2.5	13
12	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
13	Breaking the resolution limit in photoacoustic imaging using non-negativity and sparsity. Photoacoustics, 2020, 19, 100191.	7.8	10
14	Super resolution laser line scanning thermography. Optics and Lasers in Engineering, 2020, 134, 106279.	3.8	15
15	Photothermal image reconstruction in opaque media with virtual wave backpropagation. NDT and E International, 2020, 112, 102239.	3.7	12
16	Photothermal super resolution imaging: A comparison of different thermographic reconstruction techniques. NDT and E International, 2020, 111, 102228.	3.7	13
17	A Hybrid Approach for Thermographic Imaging With Deep Learning. , 2020, , .		3
18	Photoacoustic reconstruction from photothermal measurements including prior information. Photoacoustics, 2020, 19, 100175.	7.8	13

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19	Laser excited super resolution thermal imaging for nondestructive inspection of internal defects. Scientific Reports, 2020, 10, 22357.	3.3	12
20	Breaking the resolution limit in photoacoustic imaging using positivity and sparsity. , 2020, , .		1
21	Resolution Limits in Photoacoustic Imaging Caused by Acoustic Attenuation. Journal of Imaging, 2019, 5, 13.	3.0	13
22	A linear state space model for photoacoustic imaging in an acoustic attenuating media. Inverse Problems, 2019, 35, 015003.	2.0	2
23	Investigation of delamination in carbon ï¬ber reinforced plastic by means of pulse thermography, shearography and active thermography. Proceedings of Meetings on Acoustics, 2019, , .	0.3	0
24	Laser Ultrasonics. , 2019, , 1-26.		0
25	NETT regularization for compressed sensing photoacoustic tomography. , 2019, , .		4
26	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
27	Implementation and Use of a Laser-Ultrasonic System in a Deformation- and Quenching Dilatometer. Materials Science Forum, 2018, 941, 2423-2428.	0.3	1
28	Acoustic Reconstruction for Photothermal Imaging. Bioengineering, 2018, 5, 70.	3.5	7
29	Parameter estimation from pulsed thermography data using the virtual wave concept. NDT and E International, 2018, 100, 101-107.	3.7	18
30	A sparsification and reconstruction strategy for compressed sensing photoacoustic tomography. Journal of the Acoustical Society of America, 2018, 143, 3838-3848.	1.1	27
31	chirped or time modulated excitation compared to short pulses for photoacoustic imaging in acoustic attenuating media. , 2018, , .		1
32	Thermografische Rekonstruktion von internen WÃrmequellen mittels virtueller Schallwellen. Materialpruefung/Materials Testing, 2018, 60, 600-606.	2.2	1
33	Photoacoustic scanning macroscopy with interferometric ultrasound detection based on a fiber-optic ring array. , 2018, , .		0
34	Ring detector arrays for large depth of field scanning photoacoustic macroscopy. , 2018, , .		1
35	Fiber-optic annular detector array for large depth of field photoacoustic macroscopy. Photoacoustics, 2017, 5, 1-9.	7.8	17
36	Three-dimensional thermographic imaging using a virtual wave concept. Journal of Applied Physics, 2017, 121, .	2.5	56

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37	Compressed sensing in photoacoustic imaging and application for planar detection geometries. , 2017, , .		0
38	Photoacoustic super-resolution microscopy using blind structured speckle illumination. Proceedings of SPIE, 2017, , .	0.8	0
39	Super-resolution thermographic imaging using blind structured illumination. Applied Physics Letters, 2017, 111, .	3.3	22
40	Super-resolution photoacoustic microscopy using joint sparsity. Proceedings of SPIE, 2017, , .	0.8	1
41	Super-resolution photoacoustic microscopy using blind structured illumination. Optica, 2017, 4, 17.	9.3	46
42	Compressed sensing and sparsity in photoacoustic tomography. Journal of Optics (United Kingdom), 2016, 18, 114004.	2.2	45
43	Sparsifying transformations of photoacoustic signals enabling compressed sensing algorithms. , 2016, , .		5
44	Multimodal system for non-contact photoacoustic imaging, optical coherence tomography, and mid-infrared photoacoustic spectroscopy. Proceedings of SPIE, 2016, , .	0.8	0
45	Characterization of the Spatio-temporal Response of Optical Fiber Sensors to Incident Spherical Waves. Physics Procedia, 2015, 70, 155-158.	1.2	3
46	Thermodynamic Limits of Spatial Resolution in Active Thermography. International Journal of Thermophysics, 2015, 36, 2328-2341.	2.1	28
47	Photoacoustic projection imaging using a 64-channel fiber optic detector array. Proceedings of SPIE, 2015, , .	0.8	6
48	Surface Acoustic Wave-based Characterization of Randomly Distributed Surface Cracks. Physics Procedia, 2015, 70, 352-355.	1.2	0
49	Remote mid-infrared photoacoustic spectroscopy with a quantum cascade laser. Optics Letters, 2015, 40, 3476.	3.3	23
50	A Novel Compressed Sensing Scheme for Photoacoustic Tomography. SIAM Journal on Applied Mathematics, 2015, 75, 2475-2494.	1.8	41
51	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
52	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
53	Center crack detection during continuous casting of aluminum by laser ultrasonic measurements. , 2014, , .		0
54	Fiber-based remote photoacoustic imaging utilizing a Mach Zehnder interferometer with optical amplification. , 2014, , .		1

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55	Detection and reconstruction of solidification cracks â€“ Laser ultrasonic measurements during the continuous casting process of aluminum. AIP Conference Proceedings, 2014, , .	0.4	4
56	Laser ultrasound technology for fault detection on carbon fiber composites. , 2014, , .		0
57	Spatial over-sampling and its influence on spatial resolution for photoacoustic tomography with finite sized detectors. Proceedings of SPIE, 2014, , .	0.8	0
58	Characterization of the spatio-temporal response of optical fiber sensors to incident spherical waves. , 2014, , .		3
59	Application of SLM generated patterns for laser-ultrasound. , 2014, , .		1
60	Two-photon absorption-induced photoacoustic and luminescence imaging employing a femtosecond laser. , 2014, , .		1
61	Deblurring algorithms accounting for the finite detector size in photoacoustic tomography. Journal of Biomedical Optics, 2014, 19, 056011.	2.6	23
62	Laser ultrasonic receivers based on organic photorefractive polymer composites. Applied Physics B: Lasers and Optics, 2014, 114, 509-515.	2.2	16
63	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
64	Converging Laser Generated Ultrasonic Waves using Annular Patterns Irradiation. Journal of Physics: Conference Series, 2014, 520, 012001.	0.4	11
65	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
66	Quasi-balanced two-wave mixing interferometer for remote ultrasound detection. Journal of Modern Optics, 2013, 60, 1327-1331.	1.3	6
67	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
68	Direct measurement of SAW dispersion relations in the k-Ï‰ domains; numerical and experimental studies. , 2013, , .		1
69	Numerical modeling of thermoelastic generation of ultrasound by laser irradiation in the coupled thermoelasticity. Ultrasonics, 2013, 53, 141-149.	3.9	37
70	On the relation between the crossings and maxima of Lamb waves. , 2013, , .		2
71	Low-cost parallelization of optical fiber based detectors for photoacoustic imaging. Proceedings of SPIE, 2013, , .	0.8	7
72	Deconvolution algorithms for photoacoustic tomography to reduce blurring caused by finite sized detectors. Proceedings of SPIE, 2013, , .	0.8	3

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73	Non-contact photoacoustic imaging using a fiber based interferometer with optical amplification. Biomedical Optics Express, 2013, 4, 2322.	2.9	72
74	Two-photon absorption-induced photoacoustic imaging of Rhodamine B dyed polyethylene spheres using a femtosecond laser. Optics Express, 2013, 21, 22410.	3.4	38
75	Remote photoacoustic imaging on non-flat surfaces and appropriate reconstruction algorithms. , 2013, , .		3
76	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
77	Characterization of micro and nano layers using frequency domain laser-ultrasound. , 2013, , .		1
78	Laser ultrasonic velocity measurement for phase transformation investigation in titanium alloy. , 2013, , .		9
79	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
80	Focusing and subwavelength imaging of surface acoustic waves in a solid-air phononic crystal. Journal of Applied Physics, 2012, 112, .	2.5	30
81	Dual mode photoacoustic/acoustic microscopy with optical generation and detection. , 2012, , .		2
82	Characterization of thin layers using a frequency domain laser-ultrasonic system. , 2012, , .		2
83	Reconstruction algorithms for remote photoacoustic imaging. , 2012, , .		3
84	Contactless photoacoustic imaging of biological samples. , 2012, , .		1
85	Spatial resolution and sensitivity in photoacoustic tomography taking noise into account: from point-like detectors to large integrating detectors. , 2012, , .		0
86	Single mode polymer fiber line detector for photoacoustic tomography. Proceedings of SPIE, 2012, , .	0.8	1
87	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
88	Characterization of broadband fiber optic line detectors for photoacoustic tomography. Journal of Biophotonics, 2012, 5, 518-528.	2.3	39
89	Photoacoustic imaging using an adaptive interferometer with a photorefractive crystal. Journal of Biophotonics, 2012, 5, 508-517.	2.3	35
90	Numerical modeling of thermoelastic laser-generation of ultrasonic waves. , 2011, , .		1

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91	Remote ultrasound detection with a quasi-balanced confocal Fabryâ€“Perot interferometer. Nondestructive Testing and Evaluation, 2011, 26, 229-236.	2.1	2
92	Piezoelectric annular array for large depth of field photoacoustic imaging. Biomedical Optics Express, 2011, 2, 2655.	2.9	20
93	Downstream Fabryâ€“Perot interferometer for acoustic wave monitoring in photoacoustic tomography. Optics Letters, 2011, 36, 981.	3.3	27
94	Fiber-based broadband ultrasound detector for photoacoustic imaging. , 2011, , .		0
95	Ultrasonic attenuation of biomaterials for compensation in photoacoustic imaging. Proceedings of SPIE, 2011, , .	0.8	4
96	Operating point stabilization of fiber-based line detectors for photoacoustic imaging. Proceedings of SPIE, 2011, , .	0.8	0
97	Remote photoacoustic imaging for material inspection. Journal of Physics: Conference Series, 2011, 278, 012034.	0.4	3
98	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
99	Annular piezoelectric ring array for photoacoustic imaging. , 2011, , .		0
100	Photoacoustic tomography with integrating fiber-based annular detectors. , 2011, , .		1
101	Numerical and analytical modeling of optical fibers for ultrasound detection. , 2011, , .		2
102	Visualization of negative refraction of surface acoustic waves by numerical simulations and experiments. , 2011, , .		0
103	Efficient modeling and compensation of ultrasound attenuation losses in photoacoustic imaging. Inverse Problems, 2011, 27, 015003.	2.0	14
104	Annular piezoelectric ring array for photoacoustic imaging. , 2011, , .		0
105	Operating point stabilization of fiber-based line detectors for photoacoustic imaging. , 2011, , .		0
106	Three dimensional photoacoustic imaging using fiber-based line detectors. Journal of Physics: Conference Series, 2010, 214, 012029.	0.4	4
107	Determination of nanometer vibration amplitudes by using a homodyne photorefractive crystal interferometer. Procedia Engineering, 2010, 5, 299-302.	1.2	9
108	Photoacoustic microtomography using optical interferometric detection. Journal of Biomedical Optics, 2010, 15, 021307.	2.6	43

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109	Photoacoustic tomography using integrating line detectors. Journal of Physics: Conference Series, 2010, 214, 012009.	0.4	11
110	Polymer fiber detectors for photoacoustic imaging. Proceedings of SPIE, 2010, , .	0.8	6
111	Three-dimensional photoacoustic imaging using fiber-based line detectors. Journal of Biomedical Optics, 2010, 15, 021306.	2.6	56
112	Image reconstruction in photoacoustic tomography using integrating detectors accounting for frequency-dependent attenuation. Proceedings of SPIE, 2010, , .	0.8	9
113	Scanning acoustic-photoacoustic microscopy using axicon transducers. Biomedical Optics Express, 2010, 1, 318.	2.9	15
114	Remote photoacoustic imaging on solid material using a two-wave mixing interferometer. Optics Letters, 2010, 35, 4151.	3.3	60
115	Photoacoustic imaging using a multiple piezoelectric ring detection system. , 2010, , .		0
116	Scanning acoustic-photoacoustic microscopy using axicon transducers. Biomedical Optics Express, 2010, 1, 318-323.	2.9	6
117	Photoacoustic imaging with limited diffraction beam transducers. , 2009, , .		1
118	Information changes and time reversal for diffusion-related periodic fields. Proceedings of SPIE, 2009, , .	0.8	10
119	Photoacoustic imaging with integrating line detectors. Proceedings of SPIE, 2009, , .	0.8	5
120	Comparison of optical and piezoelectric integrating line detectors. Proceedings of SPIE, 2009, , .	0.8	20
121	Weight factors for limited angle photoacoustic tomography. Physics in Medicine and Biology, 2009, 54, 3303-3314.	3.0	53
122	Sounding out fluorescent proteins. Nature Photonics, 2009, 3, 378-379.	31.4	15
123	Characterization of integrating ultrasound detectors for photoacoustic tomography. Journal of Applied Physics, 2009, 105, 102026.	2.5	34
124	Laser-generation of ultrasonic X-waves using axicon transducers. Applied Physics Letters, 2009, 94, .	3.3	14
125	Photoacoustic generation of X-waves and their application in a dual mode scanning acoustic microscope. , 2009, , .		4
126	Fiber-based detectors for photoacoustic imaging. Proceedings of SPIE, 2009, , .	0.8	8

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127	Experimental determination of frequency dependent acoustic attenuation for photoacoustic imaging. Proceedings of SPIE, 2009, , .	0.8	1
128	Photoacoustic microscopy with large integrating optical annular detectors. , 2009, , .		7
129	Photoacoustic Tomography with Integrating Area and Line Detectors. Optical Science and Engineering, 2009, , 251-263.	0.1	1
130	Photoacoustic Microscopy With Large Integrating Optical Annular Detectors. , 2009, , .		3
131	Fiber-based Detectors for Photoacoustic Imaging. , 2009, , .		1
132	Photoacoustic Generation of X-waves and their Application in a Dual Mode Scanning Acoustic Microscope. , 2009, , .		0
133	Experimental determination of frequency dependent acoustic attenuation for photoacoustic imaging. , 2009, , .		0
134	Integrated waveguide sensor for acoustic wave detection in photoacoustic tomography. , 2008, , .		4
135	Optimizing image resolution in three-dimensional photoacoustic tomography with line detectors. Proceedings of SPIE, 2008, , .	0.8	4
136	Photoacoustic tomography of heterogeneous media using a model-based time reversal method. , 2008, , .		12
137	Experimental evaluation of reconstruction algorithms for limited view photoacoustic tomography with line detectors. Inverse Problems, 2007, 23, S81-S94.	2.0	116
138	Development of waveguide sensors for the application in photoacoustic tomography. Proceedings of SPIE, 2007, , .	0.8	2
139	Three-dimensional photoacoustic tomography using acoustic line detectors. , 2007, , .		9
140	Compensation of acoustic attenuation for high-resolution photoacoustic imaging with line detectors. , 2007, , .		34
141	Two-dimensional image reconstruction for photo-acoustic tomography with line detectors. Proceedings of SPIE, 2007, , .	0.8	0
142	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
143	Comparison of surface plasmon resonance devices for acoustic wave detection in liquid. Optics Express, 2007, 15, 6087.	3.4	44
144	Photoacoustic tomography using a Mach-Zehnder interferometer as an acoustic line detector. Applied Optics, 2007, 46, 3352.	2.1	156

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145	Exact and approximative imaging methods for photoacoustic tomography using an arbitrary detection surface. Physical Review E, 2007, 75, 046706.	2.1	166
146	Temporal back-projection algorithms for photoacoustic tomography with integrating line detectors. Inverse Problems, 2007, 23, S65-S80.	2.0	125
147	THERMOACOUSTIC TOMOGRAPHY AND THE CIRCULAR RADON TRANSFORM: EXACT INVERSION FORMULA. Mathematical Models and Methods in Applied Sciences, 2007, 17, 635-655.	3.3	78
148	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
149	Two-dimensional image reconstruction for photoacoustic tomography with line detectors. , 2007, , .		0
150	Development of waveguide sensors for the application in photoacoustic tomography. , 2007, , .		0
151	Thermoacoustic tomography using a fiber-based Fabry-Perot interferometer as an integrating line detector. , 2006, , .		9
152	3H-1 Sensitivity of Surface Plasmon Resonance Sensors for the Measurement of Acoustic Transients in Liquids. , 2006, , .		3
153	Thermoacoustic tomography using integrating detectors. , 2005, , .		4
154	Thermoacoustic tomography using optical line detection. , 2005, , .		3
155	Non-contact determination of elastic moduli of continuous fiber reinforced metals. Composites Science and Technology, 2005, 65, 301-306.	7.8	10
156	Polarisation-sensitive optical coherence tomography for material characterisation and testing. Insight: Non-Destructive Testing and Condition Monitoring, 2005, 47, 209-212.	0.6	11
157	Thermoacoustic tomography with integrating area and line detectors. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2005, 52, 1577-1583.	3.0	100
158	Thermoacoustic Tomography Using Integrating Detectors. , 2005, , .		1
159	Thermoacoustic Tomography Using Optical Line Detection. , 2005, , .		0
160	Thermoacoustic computed tomography with large planar receivers. Inverse Problems, 2004, 20, 1663-1673.	2.0	124
161	Polarisation-sensitive optical coherence tomography for material characterisation and strain-field mapping. Applied Physics A: Materials Science and Processing, 2003, 76, 947-951.	2.3	64
162	On the Numerical Determination of Optimal Textures of Aluminium. Textures and Microstructures, 1994, 22, 177-186.	0.2	1

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163	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
164	Thermoacoustic tomography using integrating line detectors. , 0, , .		2
165	Compensation of Ultrasound Attenuation in Photoacoustic Imaging. , 0, , .		4
166	Imaging of fiber layers using phonon focusing in fiber-reinforced composite materials. , 0, , .		0
167	Thermoacoustic imaging using time reversal. , 0, , .		1
168	Integrating Detectors for Photoacoustic Imaging. , 0, , .		0