Karl Bertling

List of Publications by Year
in descending order

92 papers	1,701 citations	361045 20 h-index	301761 39 g-index
93 all docs	93 docs citations	93 times ranked	841 citing authors

#	Article	IF	Citations
1	Optical constants from scattering-type scanning near-field optical microscope. Applied Physics Letters, 2021, 118, .	1.5	19
2	Observation of optical feedback dynamics in single-mode terahertz quantum cascade lasers: Transient instabilities. Physical Review A, 2021, 103, .	1.0	19
3	Sub-surface damage detection in marble structures using THz time domain and laser feedback interferometric imaging techniques. , 2021, , .		1
4	Near-field terahertz nanoscopy of coplanar microwave resonators. Applied Physics Letters, 2021, 119, .	1.5	10
5	Quantifying relative moisture content in dielectric models using CW-THz spectroscopy and supervised machine learning regression. , 2021, , .		1
6	Terahertz quantum cascade laser under optical feedback: effects of laser self-pulsations on self-mixing signals. Optics Express, 2021, 29, 39885.	1.7	6
7	Terahertz imaging with self-pulsations in quantum cascade lasers under optical feedback. APL Photonics, 2021, 6, 091301.	3.0	6
8	Probing Peptide Nanowire Conductivity by THz Nanoscopy. Nanotechnology, 2021, 33, .	1.3	3
9	Laser feedback interferometry in multi-mode terahertz quantum cascade lasers. Optics Express, 2020, 28, 14246.	1.7	15
10	Monitoring Water Dynamics in Plants using Laser Feedback Interferometry. , 2020, , .		3
11	Corrections to â€œTemperature-Dependent High-Speed Dynamics of Terahertz Quantum Cascade Lasersâ€• [Jul/Aug 17 Art. no. 1200209]. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-1.	1.9	0
12	Sensing and imaging using laser feedback interferometry with quantum cascade lasers. Applied Physics Reviews, 2019, 6, 021320.	5.5	52
13	Dual-Modality Confocal Laser Feedback Tomography for Highly Scattering Medium. IEEE Sensors Journal, 2019, 19, 6134-6140.	2.4	8
14	Acoustic flat lensing using an indefinite medium. Physical Review B, 2019, 99, .	1.1	12
15	A Low-Profile Wideband Tripolarized Antenna. IEEE Transactions on Antennas and Propagation, 2019, 67, 1946-1951.	3.1	24
16	Coherent imaging using laser feedback interferometry with pulsed-mode terahertz quantum cascade lasers. Optics Express, 2019, 27, 10221.	1.7	31
17	Detection sensitivity of laser feedback interferometry using a terahertz quantum cascade laser. Optics Letters, 2019, 44, 3314.	1.7	15
18	Frequency Tuning Range Control in Pulsed Terahertz Quantum-Cascade Lasers: Applications in Interferometry. IEEE Journal of Quantum Electronics, 2018, 54, 1-8.	1.0	9

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19	Determining Ethanol Content of Liquid Solutions Using Laser Feedback Interferometry with a Terahertz Quantum Cascade Laser. , 2018, 2, 1-4.		9
20	Confocal laser feedback microscopy for inâ€depth imaging applications. Electronics Letters, 2018, 54, 196-198.	0.5	8
21	new techniques for biological tissue imaging. Electronics Letters, 2018, 54, 185-185.	0.5	0
22	Polarization-sensitive laser feedback interferometry for specular reflection removal. Applied Optics, 2018, 57, 4067.	0.9	5
23	Microparticle discrimination using laser feedback interferometry. Optics Express, 2018, 26, 25778.	1.7	8
24	Surface roughness characterisation using optical feedback interferometry. Electronics Letters, 2017, 53, 268-270.	0.5	4
25	Temperature-Dependent High-Speed Dynamics of Terahertz Quantum Cascade Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-9.	1.9	7
26	Measurement of the emission spectrum of a semiconductor laser using laser-feedback interferometry. Scientific Reports, 2017, 7, 7236.	1.6	20
27	Confocal laser feedback tomography for skin cancer detection. Biomedical Optics Express, 2017, 8, 4037.	1.5	19
28	Multi-spectral terahertz sensing: proposal for a coupled-cavity quantum cascade laser based optical feedback interferometer. Optics Express, 2017, 25, 10153.	1.7	15
29	Laser Feedback Interferometry as a Tool for Analysis of Granular Materials at Terahertz Frequencies: Towards Imaging and Identification of Plastic Explosives. Sensors, 2016, 16, 352.	2.1	27
30	Concurrent Reflectance Confocal Microscopy and Laser Doppler Flowmetry to Improve Skin Cancer Imaging: A Monte Carlo Model and Experimental Validation. Sensors, 2016, 16, 1411.	2.1	10
31	Model for a pulsed terahertz quantum cascade laser under optical feedback. Optics Express, 2016, 24, 20554.	1.7	16
32	Origin of terminal voltage variations due to self-mixing in terahertz frequency quantum cascade lasers. Optics Express, 2016, 24, 21948.	1.7	10
33	Optical feedback effects on terahertz quantum cascade lasers: modelling and applications. , 2016, , .		1
34	Diffuse reflectance imaging for non-melanoma skin cancer detection using laser feedback interferometry. , 2016, , .		1
35	Microwave head imaging system using analogue fibreâ€optic link for improved detection and localisation. Electronics Letters, 2016, 52, 1366-1368.	0.5	2
36	A Compact Laser Imaging System for Concurrent Reflectance Confocal Microscopy and Laser Doppler Flowmetry. IEEE Photonics Journal, 2016, 8, 1-9.	1.0	8

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37	Terahertz frequency quantum cascade lasers: Optical feedback effects and applications. , 2016, , .		1
38	Simple Electrical Modulation Scheme for Laser Feedback Imaging. IEEE Sensors Journal, 2016, 16, 1937-1942.	2.4	20
39	Laser Feedback Interferometry with THz QCLs: A New Technology for Imaging and Materials Analysis. , 2016, , .		0
40	Terahertz radar crossâ€section characterisation using laser feedback interferometry with quantum cascade laser. Electronics Letters, 2015, 51, 1774-1776.	0.5	12
41	Laser feedback interferometry: a tutorial on the self-mixing effect for coherent sensing. Advances in Optics and Photonics, 2015, 7, 570.	12.1	294
42	Effect of the optical system on the Doppler spectrum in laser-feedback interferometry. Applied Optics, 2015, 54, 18.	0.9	30
43	Active phase-nulling of the self-mixing phase in a terahertz frequency quantum cascade laser. Optics Letters, 2015, 40, 950.	1.7	9
44	Multiple signal classification for self-mixing flowmetry. Applied Optics, 2015, 54, 2193.	0.9	13
45	Three-dimensional terahertz imaging using swept-frequency feedback interferometry with a quantum cascade laser. Optics Letters, 2015, 40, 994.	1.7	35
46	Effect of the optical numerical aperture on the Doppler spectrum in laser Doppler velocimetry. , 2014, , .		0
47	Laser dynamics under frequencyâ€shifted optical feedback with random phase. Electronics Letters, 2014, 50, 1380-1382.	0.5	5
48	THz QCL self-mixing interferometry for biomedical applications. , 2014, , .		1
49	Imaging of acoustic fields using optical feedback interferometry. Optics Express, 2014, 22, 30346.	1.7	68
50	Self-mixing sensing system based on uncooled vertical-cavity surface-emitting laser array: linking multichannel operation and enhanced performance. Optics Letters, 2014, 39, 394.	1.7	8
51	High-contrast coherent terahertz imaging of porcine tissue via swept-frequency feedback interferometry. Biomedical Optics Express, 2014, 5, 3981.	1.5	41
52	Methodology for materials analysis using swept-frequency feedback interferometry with terahertz frequency quantum cascade lasers. Optics Express, 2014, 22, 18633.	1.7	20
53	Terahertz inverse synthetic aperture radar imaging using self-mixing interferometry with a quantum cascade laser. Optics Letters, 2014, 39, 2629.	1.7	36
54	Terahertz imaging using quantum cascade lasersâ€”a review of systems and applications. Journal Physics D: Applied Physics, 2014, 47, 374008.	1.3	141

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55	Solving self-mixing equations for arbitrary feedback levels: a concise algorithm. Applied Optics, 2014, 53, 3723.	0.9	59
56	Coherent THz imaging using the self-mixing effect in quantum cascade lasers. , 2014, , .		0
57	Flow profile measurement in microchannel using the optical feedback interferometry sensing technique. Microfluidics and Nanofluidics, 2013, 14, 113-119.	1.0	59
58	On the feasibility of self-mixing interferometer sensing for detection of the surface electrocardiographic signal using a customized electro-optic phase modulator. Physiological Measurement, 2013, 34, 281-289.	1.2	19
59	Self-mixing effect in THz quantum cascade lasers: Applications in sensing and imaging. , 2013, , .		1
60	Swept-frequency feedback interferometry using terahertz frequency QCLs: a method for imaging and materials analysis. Optics Express, 2013, 21, 22194.	1.7	91
61	Self-mixing laser Doppler flow sensor: an optofluidic implementation. Applied Optics, 2013, 52, 8128.	0.9	24
62	Approach to frequency estimation in self-mixing interferometry: multiple signal classification. Applied Optics, 2013, 52, 3345.	0.9	30
63	Coherent three-dimensional terahertz imaging through self-mixing in a quantum cascade laser. Applied Physics Letters, 2013, 103, .	1.5	45
64	Demonstration of the self-mixing effect in interband cascade lasers. Applied Physics Letters, 2013, 103, .	1.5	17
65	Profiling the change in refractive index using the self-mixing effect in lasers. , 2012, , .		0
66	Integrated optofluidic flow sensor using the self-mixing effect. , 2012, , .		0
67	Comparison of the RF characteristics of inversion channel and depletion channel SOS MOSFETs. , 2012, , .		0
68	Optical electrocardiograph using self-mixing interferometer technique with a customized electro-optic phase modulator. , 2012, , .		0
69	Self-mixing laser velocimetry: A realistic model. , 2012, , .		0
70	Electrocardiographic signal detection using self-mixing interferometer technique with customized electro-optic phase modulator. , 2012, , .		2
71	SOS junctionless MOSFETs vs. inversion channel MOSFETs: Doubling the device speed without changing the technology. Microwave and Optical Technology Letters, 2012, 54, 2755-2757.	0.9	1
72	Self-mixing signals in terahertz lasers. , 2012, , .		0

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73	Towards a scanning laser confocal microscope using the self-mixing effect. , 2012, , .		0
74	Comparison of SOS MOSFET's Equivalent Circuit Parameters Extracted From LCR Meter and VNA Measurement. IEEE Transactions on Electron Devices, 2012, 59, 20-25.	1.6	4
75	A novel self-mixing sensor architecture using a PLL for noise immunity. , 2010, , .		0
76	Extraction of SOS MOSFET RF equivalent circuit elements by LCR meter measurements. Electronics Letters, 2010, 46, 863.	0.5	3
77	Self-mixing flow sensor using a monolithic VCSEL array with parallel readout. Optics Express, 2010, 18, 11720.	1.7	85
78	Extraction of RF equivalent circuit and semiconductor parameters of SOS MOSFETs from S-Parameter measurements. , 2010, , .		0
79	Temperature and current dependence of doppler SNR in a VCSEL based self-mixing sensor. , 2009, , .		0
80	Parallel self-mixing flow sensor using monolithic VCSEL array. , 2009, , .		1
81	Self-mixing imaging sensor using a monolithic VCSEL array with parallel readout. Optics Express, 2009, 17, 5517.	1.7	55
82	Self-mixing displacement sensing using the junction voltage variation in a GaN laser. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	3
83	Origin of the low frequency type curve in Silicon-on-Sapphire MOS capacitors. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	0
84	Parallel self-mixing flow sensor using monolithic VCSEL array. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	1
85	Monitoring the Electrical Properties of the Back Silicon Interface of Silicon-on-Sapphire Wafers. IEEE Electron Device Letters, 2008, 29, 325-327.	2.2	5
86	Fluid flow rate measurement using the change in laser junction voltage due to the self-mixing effect. , 2006, , .		5
87	Lasersâ€"an effective artificial source of radiation for the cultivation of anoxygenic photosynthetic bacteria. Biotechnology and Bioengineering, 2006, 94, 337-345.	1.7	21
88	Numerical Modelling Study of the Sensitivity of SOS MOSFET Characteristics to Silicon film Thickness and Back Surface Trapped Charge Variation. , 2006, , .		0
89	Cultivation of photosynthetic bacteria using vertical-cavity surface-emitting lasers. , 2005, , .		0
90	Displacement and distance measurement using the change in junction voltage across a laser diode due to the self-mixing effect. , 2005, 6038, 378.		23

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91	Optimum injection current waveform for a laser rangefinder based on the self-mixing effect. , 2004, , .		9
92	Biomedical applications of terahertz self-mixing interferometry. SPIE Newsroom, 0, , .	0.1	0