Karsten Buse

List of Publications by Year
in descending order

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150 papers	3,961 citations	126907 33 h-index	128289 60 g-index
152 all docs	152 docs citations	152 times ranked	2422 citing authors

#	Article	IF	Citations
1	Adiabatic frequency conversion in microresonators for multi-wavelength holography. , 2022, , .		0
2	?(2) frequency comb generation based on optical parametric oscillation in a lithium niobate microresonator. , 2022, , .		0
3	Electro-Optic Control of Lithium Niobate Bulk Whispering Gallery Resonators: Analysis of the Distribution of Externally Applied Electric Fields. Crystals, 2021, 11, 298.	2.2	6
4	Frequency comb generation based on optical parametric oscillation with second-order nonlinear materials. , 2021, , .		0
5	Low-threshold frequency comb generation using second-order nonlinearities in lithium niobate whispering gallery resonators. , 2021, , .		0
6	Advances in Pockels-effect-based adiabatic frequency conversion in lithium niobate high-Q optical microresonators. , 2021, , .		0
7	Electro-optic eigenfrequency tuning of potassium tantalate-niobate microresonators. APL Photonics, 2020, 5, 016106.	5.7	4
8	Frequency Comb Generation via Cascaded Second-Order Nonlinearities in Microresonators. Physical Review Letters, 2020, 124, 203902.	7.8	60
9	Pockels-effect-based adiabatic frequency conversion in ultrahigh-Q microresonators. Optics Express, 2020, 28, 2939.	3.4	20
10	Motion compensation for interferometric off-center measurements of rotating objects with varying radii. APL Photonics, 2019, 4, 071301.	5.7	5
11	Frequency Comb Generation and Conversion in Non-Centrosymmetric Optical Microresonators. , 2019, , .		0
12	Radially-Poled Stoichiometric Lithium Tantalate Microresonators for Nonlinear-Optical Applications. , 2019, , .		0
13	Adiabatic Frequency Conversion in Non-Centrosymmetric High-Q Optical Microresonators. , 2019, , .		0
14	Multiwavelength holography: height measurements despite axial motion of several wavelengths during exposure. Applied Optics, 2019, 58, G48.	1.8	4
15	Tunable single-frequency lasing in a microresonator. Optics Express, 2019, 27, 15351.	3.4	3
16	Multiwavelength Holography: Height Measurements Despite Axial Motion of Several Wavelengths During Exposure. , 2019, , .		1
17	Quasi-phase matching in integrated lithium-niobate whispering galleries. , 2019, , .		1
18	High repetition rate frequency comb up- and down-conversion in synchronously driven microresonators. , 2019, , .		0

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19	Whispering gallery optical parametric oscillators: Just a scientific oddity?. , 2019, , .		0
20	Control of mode anticrossings in whispering gallery microresonators. Optics Express, 2018, 26, 762.	3.4	10
21	Quasi-phase-matched self-pumped optical parametric oscillation in a micro-resonator. Optics Express, 2018, 26, 10813.	3.4	10
22	Continuous-wave whispering-gallery optical parametric oscillator based on CdSiP₂. Optics Express, 2018, 26, 10833.	3.4	19
23	Scattering-loss reduction of ridge waveguides by sidewall polishing. Optics Express, 2018, 26, 19815.	3.4	45
24	Pulsed laser deposition of ferroelectric potassium tantalate-niobate optical waveguiding thin films. Optical Materials Express, 2018, 8, 541.	3.0	9
25	Quasi-phase-matched nonlinear optical frequency conversion in on-chip whispering galleries. Optica, 2018, 5, 872.	9.3	71
26	Electro-optic tuning of potassium tantalate-niobate whispering gallery resonators. , 2018, , .		1
27	Multiwavelength digital holography: height measurements on linearly moving and rotating objects. , 2018, , .		2
28	Frequency comb up- and down-conversion in synchronously driven Ï‡⁽²⁾ optical microresonators. Optics Letters, 2018, 43, 5745.	3.3	43
29	Whispering gallery optical parametric oscillators for the mid-infrared spectral range. , 2018, , .		0
30	Incoherently pumped lasing and self-pumped three-wave mixing in laser-active whispering-gallery resonators. , 2018, , .		0
31	Mid-infrared whispering gallery resonators based on non-oxide nonlinear optical crystals. , 2018, , .		0
32	Q-factor enhancement of integrated lithium-niobate-on-insulator ridge waveguide whispering-gallery-mode resonators by surface polishing. Proceedings of SPIE, 2017, , .	0.8	4
33	Large and accessible conductivity of charged domain walls in lithium niobate. Scientific Reports, 2017, 7, 9862.	3.3	91
34	Continuous-wave optical parametric oscillation tunable up to 8 Î¼m wavelength. Journal of Physics: Conference Series, 2017, 867, 012010.	0.4	0
35	Potassium tantalate-niobate mixed crystal thin films for applications in nonlinear integrated optics. Journal of Physics: Conference Series, 2017, 867, 012020.	0.4	1
36	Digital holography on moving objects: multiwavelength height measurements on inclined surfaces. , 2017, , .		1

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37	Upconversion-enabled array spectrometer for the mid-infrared, featuring kilohertz spectra acquisition rates. Optics Express, 2017, 25, 14504.	3.4	27
38	Self-gated mid-infrared short pulse upconversion detection for gas sensing. Optics Express, 2017, 25, 24459.	3.4	27
39	Cascaded second-order optical nonlinearities in on-chip micro rings. Optics Express, 2017, 25, 29927.	3.4	90
40	Continuous-wave optical parametric oscillation tunable up to an 8â€‰Î¼m wavelength. Optica, 2017, 4, 189.	9.3	35
41	Geometric tuning: spectroscopy using whispering-gallery resonator frequency-synthesizers. Optica, 2017, 4, 1205.	9.3	12
42	LED-pumped whispering-gallery laser. Photonics Research, 2017, 5, B34.	7.0	20
43	Digital holography on moving objects: interference contrast as a function of velocity and aperture width. Applied Optics, 2017, 56, 4622.	2.1	8
44	Self-frequency doubling in a laser-active whispering-gallery resonator. Optics Letters, 2017, 42, 2627.	3.3	9
45	Linear and nonlinear optical properties of hybrid metallicâ€“dielectric plasmonic nanoantennas. Beilstein Journal of Nanotechnology, 2016, 7, 111-120.	2.8	30
46	Impact of the photorefractive and pyroelectric-electro-optic effect in lithium niobate on whispering-gallery modes. Optics Letters, 2016, 41, 5474.	3.3	15
47	Pseudo-type-II tuning behavior and mode identification in whispering gallery optical parametric oscillators. Optics Express, 2016, 24, 15137.	3.4	6
48	Influence of dry-oxygen-annealing on the residual absorption of lithium niobate crystals in the spectral range from 500 to 2900 nanometers. Optical Materials Express, 2016, 6, 264.	3.0	3
49	Broadband wavelength control for optical parametric oscillation in radially-poled whispering gallery resonators. Proceedings of SPIE, 2016, , .	0.8	0
50	Multiwavelength Digital Holography with Spatial Phase Shifting on Moving Objects. , 2016, , .		0
51	Highly sensitive absorption measurements in lithium niobate using whispering gallery resonators. , 2015, , .		1
52	Whispering gallery resonator from lithium tetraborate for nonlinear optics. , 2015, , .		0
53	Second-harmonic generation of light at 245â€‰â€‰nm in a lithium tetraborate whispering gallery resonator. Optics Letters, 2015, 40, 1932.	3.3	30
54	Comparative study on three highly sensitive absorption measurement techniques characterizing lithium niobate over its entire transparent spectral range. Optics Express, 2015, 23, 21690.	3.4	94

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55	Broadband infrared spectroscopy using optical parametric oscillation in a radially-poled whispering gallery resonator. Optics Express, 2015, 23, 24042.	3.4	18
56	Continuous-wave whispering-gallery optical parametric oscillator for high-resolution spectroscopy. Optics Letters, 2015, 40, 772.	3.3	22
57	Non-Lorentzian pump resonances in whispering gallery optical parametric oscillators. , 2014, , .		0
58	Continuous-wave optical parametric source for terahertz waves tunable from 1 to 4.5 THz frequency. , 2014, , .		1
59	Doubling the Efficiency of Third Harmonic Generation by Positioning ITO Nanocrystals into the Hot-Spot of Plasmonic Gap-Antennas. Nano Letters, 2014, 14, 2867-2872.	9.1	155
60	Photoacoustic absorption spectrometer for highly transparent dielectrics with parts-per-million sensitivity. Review of Scientific Instruments, 2013, 84, 023109.	1.3	40
61	Green-induced blue absorption in MgO-doped lithium niobate crystals. Optics Letters, 2013, 38, 2953.	3.3	8
62	Temperature-dependent Sellmeier equation for the extraordinary refractive index of 5Âmol % MgO-doped LiNbO_3 in the terahertz range. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 950.	2.1	22
63	High-sensitivity photoacoustic absorption spectroscopy of nonlinear optical materials. Proceedings of SPIE, 2013, , .	0.8	0
64	Whispering gallery optical parametric oscillators. , 2013, , .		0
65	Monolithic optical parametric oscillators. , 2012, , .		5
66	Blue-pumped whispering gallery optical parametric oscillator. Optics Letters, 2012, 37, 4224.	3.3	37
67	Optimizing pump threshold and conversion efficiency of whispering gallery optical parametric oscillators by controlled coupling. Optics Letters, 2012, 37, 5250.	3.3	12
68	Spontaneous polarization in ultrasmall lithium niobate nanocrystals revealed by second harmonic generation. Physical Review B, 2012, 86, .	3.2	27
69	Optical Materials and Their Properties. , 2012, , 253-399.		5
70	Pyroelectrically induced photorefractive damage in magnesium-doped lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 1973.	2.1	39
71	Pump-enhanced optical parametric oscillator generating continuous wave tunable terahertz radiation. Optics Letters, 2011, 36, 4374.	3.3	25
72	Light Matters. Optik & Photonik, 2011, 6, .	0.2	0

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73	Synthesis and characterization of Feâ€doped LiNbO₃ nanocrystals from a tripleâ€alkoxide method. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 857-862.	1.8	26
74	Highly Tunable Low-Threshold Optical Parametric Oscillation in Radially Poled Whispering Gallery Resonators. Physical Review Letters, 2011, 106, 143903.	7.8	130
75	Photoacoustic detection of weak absorption in lithium niobate. , 2011, , .		0
76	Note: Coherent detection of terahertz radiation employing a continuous wave optical parametric source. Review of Scientific Instruments, 2011, 82, 026108.	1.3	4
77	Intracavity frequency conversion: from bow-ties to whispering galleries. , 2010, , .		0
78	Continuous-wave optical parametric oscillators on their way to the terahertz range. Proceedings of SPIE, 2010, , .	0.8	0
79	Site-selective investigation of site symmetry and site occupation of iron in Fe-doped lithium niobate crystals. Journal of Applied Physics, 2009, 105, 013524.	2.5	15
80	Optical cleaning of congruent lithium niobate crystals. Nature Photonics, 2009, 3, 510-513.	31.4	82
81	Light-induced scattering of femtosecond laser pulses in iron-doped lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1018.	2.1	6
82	Fabrication and characterization of whispering-gallery-mode resonators made of polymers. Optics Express, 2009, 17, 2573.	3.4	24
83	Continuous-wave optical parametric terahertz source. Optics Express, 2009, 17, 22303.	3.4	66
84	Determination of Refractive Indices From the Mode Profiles of UV-Written Channel Waveguides in ${hbox {LiNbO}}_{3}$-Crystals for Optimization of Writing Conditions. Journal of Lightwave Technology, 2009, 27, 3490-3497.	4.6	22
85	Photorefraction in LiNbO<inf>3</inf>:Fe crystals with femtosecond laser pulses. , 2009, , .		0
86	Investigation of the photorefractive effect in lithium niobate crystals using femtosecond laser pulses. , 2009, , .		0
87	Interaction of Femtosecond Laser Pulses with Lithium Niobate Crystals: Transmission Changes and Refractive Index Modulations. Journal of Holography and Speckle, 2009, 5, 275-279.	0.1	3
88	Light absorption and pyroelectrically induced optical damage in nominally undoped and magnesium-doped lithium niobate crystals. , 2009, , .		0
89	Polarons in magnesium-doped lithium niobate crystals induced byÂfemtosecond light pulses. Applied Physics B: Lasers and Optics, 2008, 92, 543-547.	2.2	12
90	Volume holographic phase conjugation through a sub-wavelength hole. , 2008, , .		0

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91	A stochastic model for periodic domain structuring in ferroelectric crystals. Journal of Applied Physics, 2007, 102, 014104.	2.5	11
92	Charge compensation mechanism for thermo-electric oxidization of lithium niobate crystals. Journal of Applied Physics, 2007, 102, 063529.	2.5	9
93	Photorefractive Effects in LiNbO3 and LiTaO3. , 2007, , 83-126.		16
94	Limitations of the tunability of dual-crystal optical parametric oscillators. Optics Letters, 2007, 32, 1450.	3.3	20
95	Femtosecond recording and time-resolved readout of spatial gratings in lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 419.	2.1	7
96	Second harmonic generation of 2.6W green light with thermoelectrically oxidized undoped congruent lithium niobate crystals below 100Â°C. Applied Physics Letters, 2007, 91, 221110.	3.3	14
97	Optical Materials and Their Properties. , 2007, , 249-372.		4
98	Holographic Filters. , 2007, , 295-319.		1
99	Holographic grating formation in silver nanoparticle suspensions. , 2006, , .		0
100	Holographic grating formation in a colloidal suspension of silver nanoparticles. Optics Letters, 2006, 31, 447.	3.3	17
101	Linearity of index grating recording with spatially oscillating photovoltaic currents. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 857.	2.1	2
102	Two-Step Recording in Photorefractive Crystals. , 2006, , 231-251.		0
103	Conductivity of Oriented Bis-azo Polymer Films. ChemPhysChem, 2006, 7, 468-474.	2.1	2
104	Modeling of X-ray-Induced Refractive Index Changes in Poly(methyl methacrylate). ChemPhysChem, 2005, 6, 1544-1553.	2.1	28
105	Enhanced temporal resolution in femtosecond dynamic-grating experiments. Journal of Applied Physics, 2005, 97, 113107.	2.5	3
106	Holography in commercially available photoetchable glasses. Applied Optics, 2005, 44, 3399.	2.1	16
107	Large-area Fabryâ€“Perot modulator based on electro-optic polymers. Applied Optics, 2005, 44, 6235.	2.1	6
108	Optimization of electrical fixing in near-stoichiometric iron-doped lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 2553.	2.1	2

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109	Femtosecond holography in lithium niobate crystals. Optics Letters, 2005, 30, 2233.	3.3	24
110	Increased thermal stability of a poled electro-optic polymer using high-molar-mass fractions. Physical Review E, 2004, 70, 041802.	2.1	6
111	Light deflection from ferroelectric domain structures in congruent lithium tantalate crystals. Applied Optics, 2004, 43, 6344.	2.1	11
112	Electrical fixing in near-stoichiometric lithium niobate crystals. Optics Letters, 2004, 29, 2476.	3.3	13
113	LiNbO 3 nanoparticles as sensitizer in photorefractive polymer composites. , 2004, , .		4
114	Holographic recording of Bragg gratings for wavelength division multiplexing in doped and partially polymerized poly(methyl methacrylate). Applied Optics, 2003, 42, 30.	2.1	27
115	Visualization of ferroelectric domains with coherent light. Optics Letters, 2003, 28, 2515.	3.3	52
116	Photorefractive properties of lithium niobate crystals doped with manganese. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1491.	2.1	61
117	Multichannel wavelength-division multiplexing with thermally fixed Bragg gratings in photorefractive lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1593.	2.1	23
118	Improvements of sensitivity and refractive-index changes in photorefractive iron-doped lithium niobate crystals by application of extremely large external electric fields. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1643.	2.1	26
119	Two-Step Processes and IR Recording in Photorefractive Crystals. , 2003, , 23-40.		3
120	Strong electro-optic effect in electrically poled photoaddressable polymers. Journal of Applied Physics, 2003, 94, 6208-6211.	2.5	13
121	Influence of ultraviolet illumination on the poling characteristics of lithium niobate crystals. Applied Physics Letters, 2003, 83, 1824-1826.	3.3	50
122	Wavelength Division Multiplexing with Bragg Gratings in Poly(Methyl Methacrylate) (PMMA). , 2003, , .		2
123	Investigations of the impact of H+ on the optical damage resistance of lithium niobate crystals. , 2003, , .		0
124	New photorefractive imaging x-ray sensor. , 2002, , .		0
125	Photorefractive recording in LiNbO_3:Mn. Optics Letters, 2002, 27, 158.	3.3	29
126	System measure for persistence in holographic recording and application to singly-doped and doubly-doped lithium niobate. Applied Optics, 2001, 40, 5175.	2.1	18

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127	Two-center holographic recording. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 584.	2.1	104
128	Photorefractive materials: properties and applications. Applied Physics B: Lasers and Optics, 2001, 72, 633-633.	2.2	3
129	Theoretical analysis of two-step holographic recording with high-intensity pulses. Physical Review A, 2001, 63, .	2.5	25
130	Ionic and electronic dark decay of holograms in LiNbO3:Fe crystals. Applied Physics Letters, 2001, 78, 4076-4078.	3.3	54
131	Performance trade-offs in holographic recording in LiNbO3 crystals. , 2001, , .		0
132	<title>Advanced wavelenth division multiplexing with thermally fixed volume-phase gratings in iron-doped lithium niobate crystals</title>. , 2000, , .		0
133	Light-Induced Charge Transport in Photorefractive Crystals. , 2000, , 25-41.		2
134	Role of iron in lithium-niobate crystals for the dark-storage time of holograms. Journal of Applied Physics, 2000, 88, 4282.	2.5	72
135	Photorefractive properties ofLiNbO3crystals doped by copper diffusion. Physical Review B, 2000, 61, 4615-4620.	3.2	54
136	Lifetime of small polarons in iron-doped lithiumâ€“niobate crystals. Journal of Applied Physics, 2000, 87, 1034-1041.	2.5	121
137	Sensitivity improvement in two-center holographic recording. Optics Letters, 2000, 25, 539.	3.3	76
138	Role of cerium in lithium niobate for holographic recording. Journal of Applied Physics, 2000, 87, 4051-4055.	2.5	87
139	Efficient non-volatile holographic recording in doubly doped lithium niobate. Journal of Optics, 1999, 1, 237-238.	1.5	4
140	Photorefractive properties of highly-doped lithium niobate crystals in the visible and near-infrared. Applied Physics B: Lasers and Optics, 1999, 68, 777-784.	2.2	102
141	Effect of annealing in two-center holographic recording. Applied Physics Letters, 1999, 74, 3767-3769.	3.3	55
142	Multiplexing holograms in LiNbO_3:Fe:Mn crystals. Optics Letters, 1999, 24, 652.	3.3	62
143	Non-volatile holographic storage in doubly doped lithium niobate crystals. Nature, 1998, 393, 665-668.	27.8	515
144	Low-crosstalk WDM by Bragg diffraction from thermally fixed reflection holograms in lithium niobate. Electronics Letters, 1998, 34, 2419.	1.0	56

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145	<title>Hologram multiplexing using two-step recording</title>. , 1998, , .		2
146	Origin of thermal fixing in photorefractive lithium niobate crystals. Physical Review B, 1997, 56, 1225-1235.	3.2	126
147	Light-induced charge transport processes in photorefractive crystals II: Materials. Applied Physics B: Lasers and Optics, 1997, 64, 391-407.	2.2	211
148	Photorefractive Materials, Effects, and Devices. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 2190.	2.1	10
149	Three-valence charge-transport model for explanation of the photorefractive effect. Applied Physics B: Lasers and Optics, 1995, 61, 27-32.	2.2	70
150	Electro-optically tunable single-frequency lasing from neodymium-doped lithium niobate microresonators. Optics Express, 0, , .	3.4	5