Karsten Buse

List of Publications by Year
in descending order

150 papers	3,961 citations	126858 33 h-index	128225 60 g-index
152 all docs	152 docs citations	152 times ranked	2422 citing authors

#	Article	IF	Citations
1	Non-volatile holographic storage in doubly doped lithium niobate crystals. Nature, 1998, 393, 665-668.	13.7	515
2	Light-induced charge transport processes in photorefractive crystals II: Materials. Applied Physics B: Lasers and Optics, 1997, 64, 391-407.	1.1	211
3	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.	4.5	155
4	Highly Tunable Low-Threshold Optical Parametric Oscillation in Radially Poled Whispering Gallery Resonators. Physical Review Letters, 2011, 106, 143903.	2.9	130
5	Origin of thermal fixing in photorefractive lithium niobate crystals. Physical Review B, 1997, 56, 1225-1235.	1.1	126
6	Lifetime of small polarons in iron-doped lithiumâ€“niobate crystals. Journal of Applied Physics, 2000, 87, 1034-1041.	1.1	121
7	Two-center holographic recording. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 584.	0.9	104
8	Photorefractive properties of highly-doped lithium niobate crystals in the visible and near-infrared. Applied Physics B: Lasers and Optics, 1999, 68, 777-784.	1.1	102
9	Comparative study on three highly sensitive absorption measurement techniques characterizing lithium niobate over its entire transparent spectral range. Optics Express, 2015, 23, 21690.	1.7	94
10	Large and accessible conductivity of charged domain walls in lithium niobate. Scientific Reports, 2017, 7, 9862.	1.6	91
11	Cascaded second-order optical nonlinearities in on-chip micro rings. Optics Express, 2017, 25, 29927.	1.7	90
12	Role of cerium in lithium niobate for holographic recording. Journal of Applied Physics, 2000, 87, 4051-4055.	1.1	87
13	Optical cleaning of congruent lithium niobate crystals. Nature Photonics, 2009, 3, 510-513.	15.6	82
14	Sensitivity improvement in two-center holographic recording. Optics Letters, 2000, 25, 539.	1.7	76
15	Role of iron in lithium-niobate crystals for the dark-storage time of holograms. Journal of Applied Physics, 2000, 88, 4282.	1.1	72
16	Quasi-phase-matched nonlinear optical frequency conversion in on-chip whispering galleries. Optica, 2018, 5, 872.	4.8	71
17	Three-valence charge-transport model for explanation of the photorefractive effect. Applied Physics B: Lasers and Optics, 1995, 61, 27-32.	1.1	70
18	Continuous-wave optical parametric terahertz source. Optics Express, 2009, 17, 22303.	1.7	66

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19	Multiplexing holograms in LiNbO_3:Fe:Mn crystals. Optics Letters, 1999, 24, 652.	1.7	62
20	Photorefractive properties of lithium niobate crystals doped with manganese. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1491.	0.9	61
21	Frequency Comb Generation via Cascaded Second-Order Nonlinearities in Microresonators. Physical Review Letters, 2020, 124, 203902.	2.9	60
22	Low-crosstalk WDM by Bragg diffraction from thermally fixed reflection holograms in lithium niobate. Electronics Letters, 1998, 34, 2419.	0.5	56
23	Effect of annealing in two-center holographic recording. Applied Physics Letters, 1999, 74, 3767-3769.	1.5	55
24	Photorefractive properties ofLiNbO3crystals doped by copper diffusion. Physical Review B, 2000, 61, 4615-4620.	1.1	54
25	Ionic and electronic dark decay of holograms in LiNbO3:Fe crystals. Applied Physics Letters, 2001, 78, 4076-4078.	1.5	54
26	Visualization of ferroelectric domains with coherent light. Optics Letters, 2003, 28, 2515.	1.7	52
27	Influence of ultraviolet illumination on the poling characteristics of lithium niobate crystals. Applied Physics Letters, 2003, 83, 1824-1826.	1.5	50
28	Scattering-loss reduction of ridge waveguides by sidewall polishing. Optics Express, 2018, 26, 19815.	1.7	45
29	Frequency comb up- and down-conversion in synchronously driven Ï‡⁽²⁾ optical microresonators. Optics Letters, 2018, 43, 5745.	1.7	43
30	Photoacoustic absorption spectrometer for highly transparent dielectrics with parts-per-million sensitivity. Review of Scientific Instruments, 2013, 84, 023109.	0.6	40
31	Pyroelectrically induced photorefractive damage in magnesium-doped lithium niobate crystals. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 1973.	0.9	39
32	Blue-pumped whispering gallery optical parametric oscillator. Optics Letters, 2012, 37, 4224.	1.7	37
33	Continuous-wave optical parametric oscillation tunable up to an 8â€‰Î¼m wavelength. Optica, 2017, 4, 189.	4.8	35
34	Second-harmonic generation of light at 245â€‰â€‰nm in a lithium tetraborate whispering gallery resonator. Optics Letters, 2015, 40, 1932.	1.7	30
35	Linear and nonlinear optical properties of hybrid metallicâ€“dielectric plasmonic nanoantennas. Beilstein Journal of Nanotechnology, 2016, 7, 111-120.	1.5	30
36	Photorefractive recording in LiNbO_3:Mn. Optics Letters, 2002, 27, 158.	1.7	29

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37	Modeling of X-ray-Induced Refractive Index Changes in Poly(methyl methacrylate). ChemPhysChem, 2005, 6, 1544-1553.	1.0	28
38	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
39	Spontaneous polarization in ultrasmall lithium niobate nanocrystals revealed by second harmonic generation. Physical Review B, 2012, 86, .	1.1	27
40	Upconversion-enabled array spectrometer for the mid-infrared, featuring kilohertz spectra acquisition rates. Optics Express, 2017, 25, 14504.	1.7	27
41	Self-gated mid-infrared short pulse upconversion detection for gas sensing. Optics Express, 2017, 25, 24459.	1.7	27
42	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.	0.9	26
43	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.	0.8	26
44	Theoretical analysis of two-step holographic recording with high-intensity pulses. Physical Review A, 2001, 63, .	1.0	25
45	Pump-enhanced optical parametric oscillator generating continuous wave tunable terahertz radiation. Optics Letters, 2011, 36, 4374.	1.7	25
46	Femtosecond holography in lithium niobate crystals. Optics Letters, 2005, 30, 2233.	1.7	24
47	Fabrication and characterization of whispering-gallery-mode resonators made of polymers. Optics Express, 2009, 17, 2573.	1.7	24
48	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.	0.9	23
49	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.	2.7	22
50	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.	0.9	22
51	Continuous-wave whispering-gallery optical parametric oscillator for high-resolution spectroscopy. Optics Letters, 2015, 40, 772.	1.7	22
52	Limitations of the tunability of dual-crystal optical parametric oscillators. Optics Letters, 2007, 32, 1450.	1.7	20
53	LED-pumped whispering-gallery laser. Photonics Research, 2017, 5, B34.	3.4	20
54	Pockels-effect-based adiabatic frequency conversion in ultrahigh-Q microresonators. Optics Express, 2020, 28, 2939.	1.7	20

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55	Continuous-wave whispering-gallery optical parametric oscillator based on CdSiP₂. Optics Express, 2018, 26, 10833.	1.7	19
56	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
57	Broadband infrared spectroscopy using optical parametric oscillation in a radially-poled whispering gallery resonator. Optics Express, 2015, 23, 24042.	1.7	18
58	Holographic grating formation in a colloidal suspension of silver nanoparticles. Optics Letters, 2006, 31, 447.	1.7	17
59	Holography in commercially available photoetchable glasses. Applied Optics, 2005, 44, 3399.	2.1	16
60	Photorefractive Effects in LiNbO3 and LiTaO3. , 2007, , 83-126.		16
61	Site-selective investigation of site symmetry and site occupation of iron in Fe-doped lithium niobate crystals. Journal of Applied Physics, 2009, 105, 013524.	1.1	15
62	Impact of the photorefractive and pyroelectric-electro-optic effect in lithium niobate on whispering-gallery modes. Optics Letters, 2016, 41, 5474.	1.7	15
63	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.	1.5	14
64	Strong electro-optic effect in electrically poled photoaddressable polymers. Journal of Applied Physics, 2003, 94, 6208-6211.	1.1	13
65	Electrical fixing in near-stoichiometric lithium niobate crystals. Optics Letters, 2004, 29, 2476.	1.7	13
66	Polarons in magnesium-doped lithium niobate crystals induced byÂfemtosecond light pulses. Applied Physics B: Lasers and Optics, 2008, 92, 543-547.	1.1	12
67	Optimizing pump threshold and conversion efficiency of whispering gallery optical parametric oscillators by controlled coupling. Optics Letters, 2012, 37, 5250.	1.7	12
68	Geometric tuning: spectroscopy using whispering-gallery resonator frequency-synthesizers. Optica, 2017, 4, 1205.	4.8	12
69	Light deflection from ferroelectric domain structures in congruent lithium tantalate crystals. Applied Optics, 2004, 43, 6344.	2.1	11
70	A stochastic model for periodic domain structuring in ferroelectric crystals. Journal of Applied Physics, 2007, 102, 014104.	1.1	11
71	Photorefractive Materials, Effects, and Devices. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 2190.	0.9	10
72	Control of mode anticrossings in whispering gallery microresonators. Optics Express, 2018, 26, 762.	1.7	10

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73	Quasi-phase-matched self-pumped optical parametric oscillation in a micro-resonator. Optics Express, 2018, 26, 10813.	1.7	10
74	Charge compensation mechanism for thermo-electric oxidization of lithium niobate crystals. Journal of Applied Physics, 2007, 102, 063529.	1.1	9
75	Self-frequency doubling in a laser-active whispering-gallery resonator. Optics Letters, 2017, 42, 2627.	1.7	9
76	Pulsed laser deposition of ferroelectric potassium tantalate-niobate optical waveguiding thin films. Optical Materials Express, 2018, 8, 541.	1.6	9
77	Green-induced blue absorption in MgO-doped lithium niobate crystals. Optics Letters, 2013, 38, 2953.	1.7	8
78	Digital holography on moving objects: interference contrast as a function of velocity and aperture width. Applied Optics, 2017, 56, 4622.	2.1	8
79	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.	0.9	7
80	Increased thermal stability of a poled electro-optic polymer using high-molar-mass fractions. Physical Review E, 2004, 70, 041802.	0.8	6
81	Large-area Fabryâ€“Perot modulator based on electro-optic polymers. Applied Optics, 2005, 44, 6235.	2.1	6
82	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.	0.9	6
83	Pseudo-type-II tuning behavior and mode identification in whispering gallery optical parametric oscillators. Optics Express, 2016, 24, 15137.	1.7	6
84	Electro-Optic Control of Lithium Niobate Bulk Whispering Gallery Resonators: Analysis of the Distribution of Externally Applied Electric Fields. Crystals, 2021, 11, 298.	1.0	6
85	Monolithic optical parametric oscillators. , 2012, , .		5
86	Optical Materials and Their Properties. , 2012, , 253-399.		5
87	Motion compensation for interferometric off-center measurements of rotating objects with varying radii. APL Photonics, 2019, 4, 071301.	3.0	5
88	Electro-optically tunable single-frequency lasing from neodymium-doped lithium niobate microresonators. Optics Express, 0, , .	1.7	5
89	Efficient non-volatile holographic recording in doubly doped lithium niobate. Journal of Optics, 1999, 1, 237-238.	1.5	4
90	LiNbO 3 nanoparticles as sensitizer in photorefractive polymer composites. , 2004, , .		4

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91	Optical Materials and Their Properties. , 2007, , 249-372.		4
92	Note: Coherent detection of terahertz radiation employing a continuous wave optical parametric source. Review of Scientific Instruments, 2011, 82, 026108.	0.6	4
93	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
94	Electro-optic eigenfrequency tuning of potassium tantalate-niobate microresonators. APL Photonics, 2020, 5, 016106.	3.0	4
95	Multiwavelength holography: height measurements despite axial motion of several wavelengths during exposure. Applied Optics, 2019, 58, G48.	0.9	4
96	Photorefractive materials: properties and applications. Applied Physics B: Lasers and Optics, 2001, 72, 633-633.	1.1	3
97	Two-Step Processes and IR Recording in Photorefractive Crystals. , 2003, , 23-40.		3
98	Enhanced temporal resolution in femtosecond dynamic-grating experiments. Journal of Applied Physics, 2005, 97, 113107.	1.1	3
99	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.	1.6	3
100	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
101	Tunable single-frequency lasing in a microresonator. Optics Express, 2019, 27, 15351.	1.7	3
102	‹title›Hologram multiplexing using two-step recording‹/title›. , 1998, , .		2
103	Light-Induced Charge Transport in Photorefractive Crystals. , 2000, , 25-41.		2
104	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.	0.9	2
105	Linearity of index grating recording with spatially oscillating photovoltaic currents. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 857.	0.9	2
106	Conductivity of Oriented Bis-azo Polymer Films. ChemPhysChem, 2006, 7, 468-474.	1.0	2
107	Multiwavelength digital holography: height measurements on linearly moving and rotating objects. , 2018, , .		2
108	Wavelength Division Multiplexing with Bragg Gratings in Poly(Methyl Methacrylate) (PMMA). , 2003, , .		2

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109	Continuous-wave optical parametric source for terahertz waves tunable from 1 to 4.5 THz frequency. , 2014, , .		1
110	Highly sensitive absorption measurements in lithium niobate using whispering gallery resonators. , 2015, , .		1
111	Potassium tantalate-niobate mixed crystal thin films for applications in nonlinear integrated optics. Journal of Physics: Conference Series, 2017, 867, 012020.	0.3	1
112	Digital holography on moving objects: multiwavelength height measurements on inclined surfaces. , 2017, , .		1
113	Holographic Filters. , 2007, , 295-319.		1
114	Electro-optic tuning of potassium tantalate-niobate whispering gallery resonators. , 2018, , .		1
115	Multiwavelength Holography: Height Measurements Despite Axial Motion of Several Wavelengths During Exposure. , 2019, , .		1
116	Quasi-phase matching in integrated lithium-niobate whispering galleries. , 2019, , .		1
117	<title>Advanced wavelenth division multiplexing with thermally fixed volume-phase gratings in iron-doped lithium niobate crystals</title>. , 2000, , .		0
118	New photorefractive imaging x-ray sensor. , 2002, , .		0
119	Holographic grating formation in silver nanoparticle suspensions. , 2006, , .		0
120	Two-Step Recording in Photorefractive Crystals. , 2006, , 231-251.		0
121	Photorefraction in LiNbO<inf>3</inf>:Fe crystals with femtosecond laser pulses. , 2009, , .		0
122	Investigation of the photorefractive effect in lithium niobate crystals using femtosecond laser pulses. , 2009, , .		0
123	Intracavity frequency conversion: from bow-ties to whispering galleries. , 2010, , .		0
124	Continuous-wave optical parametric oscillators on their way to the terahertz range. Proceedings of SPIE, 2010, , .	0.8	0
125	Light Matters. Optik & Photonik, 2011, 6, .	0.3	0
126	Photoacoustic detection of weak absorption in lithium niobate. , 2011, , .		0

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127	High-sensitivity photoacoustic absorption spectroscopy of nonlinear optical materials. Proceedings of SPIE, 2013, , .	0.8	0
128	Whispering gallery optical parametric oscillators. , 2013, , .		0
129	Non-Lorentzian pump resonances in whispering gallery optical parametric oscillators. , 2014, , .		0
130	Whispering gallery resonator from lithium tetraborate for nonlinear optics. , 2015, , .		0
131	Broadband wavelength control for optical parametric oscillation in radially-poled whispering gallery resonators. Proceedings of SPIE, 2016, , .	0.8	0
132	Continuous-wave optical parametric oscillation tunable up to 8 Î¼m wavelength. Journal of Physics: Conference Series, 2017, 867, 012010.	0.3	0
133	Frequency Comb Generation and Conversion in Non-Centrosymmetric Optical Microresonators. , 2019, , .		0
134	Radially-Poled Stoichiometric Lithium Tantalate Microresonators for Nonlinear-Optical Applications. , 2019, , .		0
135	Adiabatic Frequency Conversion in Non-Centrosymmetric High-Q Optical Microresonators. , 2019, , .		0
136	Frequency comb generation based on optical parametric oscillation with second-order nonlinear materials. , 2021, , .		0
137	Low-threshold frequency comb generation using second-order nonlinearities in lithium niobate whispering gallery resonators. , 2021, , .		0
138	Advances in Pockels-effect-based adiabatic frequency conversion in lithium niobate high-Q optical microresonators. , 2021, , .		0
139	Performance trade-offs in holographic recording in LiNbO3 crystals. , 2001, , .		0
140	Investigations of the impact of H+ on the optical damage resistance of lithium niobate crystals. , 2003, , .		0
141	Volume holographic phase conjugation through a sub-wavelength hole. , 2008, , .		0
142	Light absorption and pyroelectrically induced optical damage in nominally undoped and magnesium-doped lithium niobate crystals. , 2009, , .		0
143	Multiwavelength Digital Holography with Spatial Phase Shifting on Moving Objects. , 2016, , .		0
144	Whispering gallery optical parametric oscillators for the mid-infrared spectral range. , 2018, , .		0

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145	Incoherently pumped lasing and self-pumped three-wave mixing in laser-active whispering-gallery resonators. , 2018, , .		0
146	Mid-infrared whispering gallery resonators based on non-oxide nonlinear optical crystals. , 2018, , .		0
147	High repetition rate frequency comb up- and down-conversion in synchronously driven microresonators. , 2019, , .		0
148	Whispering gallery optical parametric oscillators: Just a scientific oddity?. , 2019, , .		0
149	Adiabatic frequency conversion in microresonators for multi-wavelength holography. , 2022, , .		0
150	?(2) frequency comb generation based on optical parametric oscillation in a lithium niobate microresonator. , 2022, , .		0