

# Karsten Buse

## List of Publications by Citations

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113  
papers

3,028  
citations

29  
h-index

51  
g-index

152  
ext. papers

3,665  
ext. citations

3.7  
avg, IF

5.1  
L-index

#	Paper	IF	Citations
113	Non-volatile holographic storage in doubly doped lithium niobate crystals. <i>Nature</i> , <b>1998</b> , 393, 665-668	50.4	392
112	Light-induced charge transport processes in photorefractive crystals II: Materials. <i>Applied Physics B: Lasers and Optics</i> , <b>1997</b> , 64, 391-407	1.9	175
111	Doubling the efficiency of third harmonic generation by positioning ITO nanocrystals into the hot-spot of plasmonic gap-antennas. <i>Nano Letters</i> , <b>2014</b> , 14, 2867-72	11.5	137
110	Lifetime of small polarons in iron-doped lithium niobate crystals. <i>Journal of Applied Physics</i> , <b>2000</b> , 87, 1034-1041	2.5	107
109	Highly tunable low-threshold optical parametric oscillation in radially poled whispering gallery resonators. <i>Physical Review Letters</i> , <b>2011</b> , 106, 143903	7.4	101
108	Origin of thermal fixing in photorefractive lithium niobate crystals. <i>Physical Review B</i> , <b>1997</b> , 56, 1225-1235	3.5	97
107	Photorefractive properties of highly-doped lithium niobate crystals in the visible and near-infrared. <i>Applied Physics B: Lasers and Optics</i> , <b>1999</b> , 68, 777-784	1.9	86
106	Two-center holographic recording. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2001</b> , 18, 584	1.7	75
105	Optical cleaning of congruent lithium niobate crystals. <i>Nature Photonics</i> , <b>2009</b> , 3, 510-513	33.9	70
104	Role of cerium in lithium niobate for holographic recording. <i>Journal of Applied Physics</i> , <b>2000</b> , 87, 4051-4055	5.5	65
103	Comparative study on three highly sensitive absorption measurement techniques characterizing lithium niobate over its entire transparent spectral range. <i>Optics Express</i> , <b>2015</b> , 23, 21690-705	3.3	63
102	Cascaded second-order optical nonlinearities in on-chip micro rings. <i>Optics Express</i> , <b>2017</b> , 25, 29927-29933	3.3	63
101	Sensitivity improvement in two-center holographic recording. <i>Optics Letters</i> , <b>2000</b> , 25, 539-41	3	58
100	Role of iron in lithium-niobate crystals for the dark-storage time of holograms. <i>Journal of Applied Physics</i> , <b>2000</b> , 88, 4282	2.5	57
99	Three-valence charge-transport model for explanation of the photorefractive effect. <i>Applied Physics B: Lasers and Optics</i> , <b>1995</b> , 61, 27-32	1.9	57
98	Large and accessible conductivity of charged domain walls in lithium niobate. <i>Scientific Reports</i> , <b>2017</b> , 7, 9862	4.9	56
97	Quasi-phase-matched nonlinear optical frequency conversion in on-chip whispering galleries. <i>Optica</i> , <b>2018</b> , 5, 872	8.6	53

96	Continuous-wave optical parametric terahertz source. <i>Optics Express</i> , <b>2009</b> , 17, 22303-10	3-3	53
95	Photorefractive properties of lithium niobate crystals doped with manganese. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2003</b> , 20, 1491	1-7	50
94	Ionic and electronic dark decay of holograms in LiNbO <sub>3</sub> :Fe crystals. <i>Applied Physics Letters</i> , <b>2001</b> , 78, 4076-4078	3-4	49
93	Multiplexing holograms in LiNbO <sub>3</sub> :Fe:Mn crystals. <i>Optics Letters</i> , <b>1999</b> , 24, 652-4	3	49
92	Low-crosstalk WDM by Bragg diffraction from thermally fixed reflection holograms in lithium niobate. <i>Electronics Letters</i> , <b>1998</b> , 34, 2419	1-1	46
91	Photorefractive properties of LiNbO <sub>3</sub> crystals doped by copper diffusion. <i>Physical Review B</i> , <b>2000</b> , 61, 4615-4620	3-3	43
90	Effect of annealing in two-center holographic recording. <i>Applied Physics Letters</i> , <b>1999</b> , 74, 3767-3769	3-4	43
89	Visualization of ferroelectric domains with coherent light. <i>Optics Letters</i> , <b>2003</b> , 28, 2515-7	3	41
88	Influence of ultraviolet illumination on the poling characteristics of lithium niobate crystals. <i>Applied Physics Letters</i> , <b>2003</b> , 83, 1824-1826	3-4	37
87	Blue-pumped whispering gallery optical parametric oscillator. <i>Optics Letters</i> , <b>2012</b> , 37, 4224-6	3	33
86	Pyroelectrically induced photorefractive damage in magnesium-doped lithium niobate crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2011</b> , 28, 1973	1-7	32
85	Photoacoustic absorption spectrometer for highly transparent dielectrics with parts-per-million sensitivity. <i>Review of Scientific Instruments</i> , <b>2013</b> , 84, 023109	1-7	30
84	Frequency Comb Generation via Cascaded Second-Order Nonlinearities in Microresonators. <i>Physical Review Letters</i> , <b>2020</b> , 124, 203902	7-4	27
83	Frequency comb up- and down-conversion in synchronously driven optical microresonators. <i>Optics Letters</i> , <b>2018</b> , 43, 5745-5748	3	27
82	Scattering-loss reduction of ridge waveguides by sidewall polishing. <i>Optics Express</i> , <b>2018</b> , 26, 19815-19820	3-5	26
81	Photorefractive recording in LiNbO <sub>3</sub> :Mn. <i>Optics Letters</i> , <b>2002</b> , 27, 158-60	3	26
80	Improvements of sensitivity and refractive-index changes in photorefractive iron-doped lithium niobate crystals by application of extremely large external electric fields. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2003</b> , 20, 1643	1-7	24
79	Pump-enhanced optical parametric oscillator generating continuous wave tunable terahertz radiation. <i>Optics Letters</i> , <b>2011</b> , 36, 4374-6	3	23

78	Femtosecond holography in lithium niobate crystals. <i>Optics Letters</i> , <b>2005</b> , 30, 2233-5	3	22
77	Multichannel wavelength-division multiplexing with thermally fixed Bragg gratings in photorefractive lithium niobate crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2003</b> , 20, 1593	1.7	22
76	Theoretical analysis of two-step holographic recording with high-intensity pulses. <i>Physical Review A</i> , <b>2001</b> , 63,	2.6	22
75	Linear and nonlinear optical properties of hybrid metallic-dielectric plasmonic nanoantennas. <i>Beilstein Journal of Nanotechnology</i> , <b>2016</b> , 7, 111-20	3	22
74	Spontaneous polarization in ultrasmall lithium niobate nanocrystals revealed by second harmonic generation. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	21
73	Second-harmonic generation of light at 245 nm in a lithium tetraborate whispering gallery resonator. <i>Optics Letters</i> , <b>2015</b> , 40, 1932-5	3	20
72	Upconversion-enabled array spectrometer for the mid-infrared, featuring kilohertz spectra acquisition rates. <i>Optics Express</i> , <b>2017</b> , 25, 14504-14515	3.3	20
71	Continuous-wave optical parametric oscillation tunable up to an 8 $\mu$ m wavelength. <i>Optica</i> , <b>2017</b> , 4, 189	8.6	20
70	Self-gated mid-infrared short pulse upconversion detection for gas sensing. <i>Optics Express</i> , <b>2017</b> , 25, 24459-24468	3.3	19
69	Synthesis and characterization of Fe-doped LiNbO <sub>3</sub> nanocrystals from a triple-alkoxide method. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2011</b> , 208, 857-862	1.6	19
68	Modeling of X-ray-induced refractive index changes in poly(methyl methacrylate). <i>ChemPhysChem</i> , <b>2005</b> , 6, 1544-53	3.2	19
67	Temperature-dependent Sellmeier equation for the extraordinary refractive index of 5 mol % MgO-doped LiNbO <sub>3</sub> in the terahertz range. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2013</b> , 30, 950	1.7	18
66	Fabrication and characterization of whispering-gallery-mode resonators made of polymers. <i>Optics Express</i> , <b>2009</b> , 17, 2573-8	3.3	18
65	Holographic recording of Bragg gratings for wavelength division multiplexing in doped and partially polymerized poly(methyl methacrylate). <i>Applied Optics</i> , <b>2003</b> , 42, 30-7	1.7	18
64	Determination of Refractive Indices From the Mode Profiles of UV-Written Channel Waveguides in LiNbO <sub>3</sub> -Crystals for Optimization of Writing Conditions. <i>Journal of Lightwave Technology</i> , <b>2009</b> , 27, 3490-3497	4	17
63	Continuous-wave whispering-gallery optical parametric oscillator for high-resolution spectroscopy. <i>Optics Letters</i> , <b>2015</b> , 40, 772-5	3	16
62	Limitations of the tunability of dual-crystal optical parametric oscillators. <i>Optics Letters</i> , <b>2007</b> , 32, 1450-3		16
61	Site-selective investigation of site symmetry and site occupation of iron in Fe-doped lithium niobate crystals. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 013524	2.5	15

60	Photorefractive Effects in LiNbO <sub>3</sub> and LiTaO <sub>3</sub> <b>2007</b> , 83-126		14
59	Broadband infrared spectroscopy using optical parametric oscillation in a radially-poled whispering gallery resonator. <i>Optics Express</i> , <b>2015</b> , 23, 24042-7	3-3	13
58	Strong electro-optic effect in electrically poled photoaddressable polymers. <i>Journal of Applied Physics</i> , <b>2003</b> , 94, 6208-6211	2.5	13
57	Impact of the photorefractive and pyroelectric-electro-optic effect in lithium niobate on whispering-gallery modes. <i>Optics Letters</i> , <b>2016</b> , 41, 5474-5477	3	13
56	Second harmonic generation of 2.6W green light with thermoelectrically oxidized undoped congruent lithium niobate crystals below 100°C. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 221110	3-4	12
55	Electrical fixing in near-stoichiometric lithium niobate crystals. <i>Optics Letters</i> , <b>2004</b> , 29, 2476-8	3	12
54	LED-pumped whispering-gallery laser. <i>Photonics Research</i> , <b>2017</b> , 5, B34	6	11
53	Holographic grating formation in a colloidal suspension of silver nanoparticles. <i>Optics Letters</i> , <b>2006</b> , 31, 447-9	3	11
52	System measure for persistence in holographic recording and application to singly-doped and doubly-doped lithium niobate. <i>Applied Optics</i> , <b>2001</b> , 40, 5175-82	1.7	11
51	Optimizing pump threshold and conversion efficiency of whispering gallery optical parametric oscillators by controlled coupling. <i>Optics Letters</i> , <b>2012</b> , 37, 5250-2	3	10
50	Polarons in magnesium-doped lithium niobate crystals induced by femtosecond light pulses. <i>Applied Physics B: Lasers and Optics</i> , <b>2008</b> , 92, 543-547	1.9	10
49	Continuous-wave whispering-gallery optical parametric oscillator based on CdSiP. <i>Optics Express</i> , <b>2018</b> , 26, 10833-10841	3-3	9
48	Holography in commercially available photoetchable glasses. <i>Applied Optics</i> , <b>2005</b> , 44, 3399-402	1.7	9
47	Light deflection from ferroelectric domain structures in congruent lithium tantalate crystals. <i>Applied Optics</i> , <b>2004</b> , 43, 6344-7	1.7	9
46	Charge compensation mechanism for thermo-electric oxidization of lithium niobate crystals. <i>Journal of Applied Physics</i> , <b>2007</b> , 102, 063529	2.5	8
45	Pockels-effect-based adiabatic frequency conversion in ultrahigh-Q microresonators. <i>Optics Express</i> , <b>2020</b> , 28, 2939-2947	3-3	8
44	Self-frequency doubling in a laser-active whispering-gallery resonator. <i>Optics Letters</i> , <b>2017</b> , 42, 2627-2630		7
43	Control of mode anticrossings in whispering gallery microresonators. <i>Optics Express</i> , <b>2018</b> , 26, 762-771	3-3	7

42	Quasi-phase-matched self-pumped optical parametric oscillation in a micro-resonator. <i>Optics Express</i> , <b>2018</b> , 26, 10813-10819	3.3	7
41	A stochastic model for periodic domain structuring in ferroelectric crystals. <i>Journal of Applied Physics</i> , <b>2007</b> , 102, 014104	2.5	7
40	Femtosecond recording and time-resolved readout of spatial gratings in lithium niobate crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2007</b> , 24, 419	1.7	7
39	Geometric tuning: spectroscopy using whispering-gallery resonator frequency-synthesizers. <i>Optica</i> , <b>2017</b> , 4, 1205	8.6	6
38	Digital holography on moving objects: interference contrast as a function of velocity and aperture width. <i>Applied Optics</i> , <b>2017</b> , 56, 4622-4628	0.2	6
37	Increased thermal stability of a poled electro-optic polymer using high-molar-mass fractions. <i>Physical Review E</i> , <b>2004</b> , 70, 041802	2.4	6
36	Green-induced blue absorption in MgO-doped lithium niobate crystals. <i>Optics Letters</i> , <b>2013</b> , 38, 2953-6	3	5
35	Light-induced scattering of femtosecond laser pulses in iron-doped lithium niobate crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2009</b> , 26, 1018	1.7	5
34	Large-area Fabry-Perot modulator based on electro-optic polymers. <i>Applied Optics</i> , <b>2005</b> , 44, 6235-9	1.7	5
33	Optical Materials and Their Properties <b>2007</b> , 249-372		4
32	LiNbO <sub>3</sub> nanoparticles as sensitizer in photorefractive polymer composites <b>2004</b> ,		4
31	Pseudo-type-II tuning behavior and mode identification in whispering gallery optical parametric oscillators. <i>Optics Express</i> , <b>2016</b> , 24, 15137-42	3.3	4
30	Pulsed laser deposition of ferroelectric potassium tantalate-niobate optical waveguiding thin films. <i>Optical Materials Express</i> , <b>2018</b> , 8, 541	2.6	3
29	Motion compensation for interferometric off-center measurements of rotating objects with varying radii. <i>APL Photonics</i> , <b>2019</b> , 4, 071301	5.2	3
28	Note: Coherent detection of terahertz radiation employing a continuous wave optical parametric source. <i>Review of Scientific Instruments</i> , <b>2011</b> , 82, 026108	1.7	3
27	Monolithic optical parametric oscillators <b>2012</b> ,		3
26	Enhanced temporal resolution in femtosecond dynamic-grating experiments. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 113107	2.5	3
25	Two-Step Processes and IR Recording in Photorefractive Crystals <b>2003</b> , 23-40		3

24	Efficient non-volatile holographic recording in doubly doped lithium niobate. <i>Journal of Optics</i> , <b>1999</b> , 1, 237-238		3
23	Interaction of Femtosecond Laser Pulses with Lithium Niobate Crystals: Transmission Changes and Refractive Index Modulations. <i>Journal of Holography and Speckle</i> , <b>2009</b> , 5, 275-279		3
22	Multiwavelength holography: height measurements despite axial motion of several wavelengths during exposure. <i>Applied Optics</i> , <b>2019</b> , 58, G48-G51	1.7	3
21	Q-factor enhancement of integrated lithium-niobate-on-insulator ridge waveguide whispering-gallery-mode resonators by surface polishing <b>2017</b> ,		2
20	Electro-optic eigenfrequency tuning of potassium tantalate-niobate microresonators. <i>APL Photonics</i> , <b>2020</b> , 5, 016106	5.2	2
19	Optical Materials and Their Properties <b>2012</b> , 253-399		2
18	Conductivity of oriented bis-azo polymer films. <i>ChemPhysChem</i> , <b>2006</b> , 7, 468-74	3.2	2
17	Optimization of electrical fixing in near-stoichiometric iron-doped lithium niobate crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2005</b> , 22, 2553	1.7	2
16	Linearity of index grating recording with spatially oscillating photovoltaic currents. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>2006</b> , 23, 857	1.7	2
15	Hologram multiplexing using two-step recording <b>1998</b> ,		2
14	Photorefractive Materials, Effects, and Devices. <i>Journal of the Optical Society of America B: Optical Physics</i> , <b>1996</b> , 13, 2190	1.7	2
13	Tunable single-frequency lasing in a microresonator. <i>Optics Express</i> , <b>2019</b> , 27, 15351-15358	3.3	2
12	Electro-Optic Control of Lithium Niobate Bulk Whispering Gallery Resonators: Analysis of the Distribution of Externally Applied Electric Fields. <i>Crystals</i> , <b>2021</b> , 11, 298	2.3	2
11	Influence of dry-oxygen-annealing on the residual absorption of lithium niobate crystals in the spectral range from 500 to 2900 nanometers. <i>Optical Materials Express</i> , <b>2016</b> , 6, 264	2.6	1
10	Potassium tantalate-niobate mixed crystal thin films for applications in nonlinear integrated optics. <i>Journal of Physics: Conference Series</i> , <b>2017</b> , 867, 012020	0.3	1
9	Highly sensitive absorption measurements in lithium niobate using whispering gallery resonators <b>2015</b> ,		1
8	Light-Induced Charge Transport in Photorefractive Crystals <b>2000</b> , 25-41		1
7	Electro-optic tuning of potassium tantalate-niobate whispering gallery resonators <b>2018</b> ,		1

- 6 Multiwavelength digital holography: height measurements on linearly moving and rotating objects **2018**, 1
- 5 Wavelength Division Multiplexing with Bragg Gratings in Poly(Methyl Methacrylate) (PMMA) **2003**, 1
- 4 Multiwavelength Holography: Height Measurements Despite Axial Motion of Several Wavelengths During Exposure **2019**, 1
- 3 Holographic Filters **2007**, 295-319 1
- 2 Continuous-wave optical parametric oscillation tunable up to 8  $\mu\text{m}$  wavelength. *Journal of Physics: Conference Series*, **2017**, 867, 012010 0.3
- 1 Two-Step Recording in Photorefractive Crystals **2006**, 231-251