

# Yury Klimachev

## List of Publications by Year in descending order

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126  
papers

967  
citations

471061

17  
h-index

500791

28  
g-index

126  
all docs

126  
docs citations

126  
times ranked

393  
citing authors

#	ARTICLE	IF	CITATIONS
1	Frequency down-conversion of multiline CO laser into the THz range with ZnGeP <sub>2</sub> crystal. Optical and Quantum Electronics, 2020, 52, 1.	1.5	132
2	Non-self-sustained electric discharge in oxygen gas mixtures: singlet delta oxygen production. Journal Physics D: Applied Physics, 2003, 36, 982-989.	1.3	77
3	Broadband carbon monoxide laser system operating in the wavelength range of 2.5 $\mu\text{m}$ – 8.3 $\mu\text{m}$ . Quantum Electronics, 2013, 43, 139-143.	0.3	50
4	Direct femtosecond laser fabrication of antireflective layer on GaAs surface. Applied Physics B: Lasers and Optics, 2013, 111, 419-423.	1.1	42
5	Cascaded carbon monoxide laser frequency conversion into the 43 $\mu\text{m}$ – 49 $\mu\text{m}$ range in a single ZnGeP <sub>2</sub> crystal. Optics Letters, 2012, 37, 2838.	1.7	31
6	Ultra-broadband hybrid infrared laser system. Optics Communications, 2016, 363, 26-30.	1.0	31
7	Frequency tunable CO laser operating on the highest vibrational transition with wavelength of 87 $\mu\text{m}$ . Optics Letters, 2017, 42, 498.	1.7	30
8	Frequency conversion of mode-locked and Q-switched CO laser radiation with efficiency up to 37%. Optics Letters, 2015, 40, 2997.	1.7	29
9	Mode-locked CO laser frequency doubling in ZnGeP <sub>2</sub> with 25% efficiency. Laser Physics Letters, 2011, 8, 723-728.	0.6	25
10	Glow discharge in singlet oxygen. Plasma Physics Reports, 2003, 29, 211-219.	0.3	24
11	Carbon monoxide laser emitting nanosecond pulses with 10MHz repetition rate. Optics Communications, 2009, 282, 294-299.	1.0	23
12	Multiline laser probing of CO:He, CO:N <sub>2</sub> , and CO:O <sub>2</sub> active media in a wide-aperture pulsed amplifier. Journal of Russian Laser Research, 2006, 27, 33-69.	0.3	22
13	Broadband two-stage frequency conversion of CO laser in AgGaSe <sub>2</sub> crystal. Optics Letters, 2016, 41, 777.	1.7	19
14	High-power supersonic CO laser on fundamental and overtone transitions. Quantum Electronics, 2005, 35, 1126-1130.	0.3	18
15	Frequency conversion of molecular gas lasers in Pbn <sub>6</sub> Te <sub>10</sub> crystal within mid-IR range. Optics Letters, 2016, 41, 2390.	1.7	18
16	Mode-locked and Q-switched carbon monoxide laser system. Optics Communications, 2015, 345, 163-167.	1.0	17
17	Sum frequency generation of multi-line slab radio frequency discharge carbon monoxide laser system with intracavity nonlinear BaGa <sub>2</sub> GeSe <sub>6</sub> crystal. Optics Letters, 2018, 43, 4358.	1.7	17
18	Sum-frequency generation of Q-switched CO laser radiation in BaGa <sub>2</sub> GeSe <sub>6</sub> and GaSe nonlinear crystals. Optical and Quantum Electronics, 2018, 50, 1.	1.5	17

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19	Frequency conversion of mid-IR lasers into the long-wavelength domain of 12-20 $\mu\text{m}$ with $\text{AgGaSe}_2$ , $\text{BaGa}_2\text{Ge}_6$ and $\text{PbIn}_6\text{Te}_{10}$ nonlinear crystals. Optics Express, 2019, 27, 24353.	1.7	17
20	A pulsed overtone CO laser with efficiency of 16%. Quantum Electronics, 2006, 36, 1153-1154.	0.3	15
21	Sum frequency generation under conversion of Q-switched cryogenic slab RF discharge CO laser radiation in $\text{ZnGeP}_2$ . Laser Physics, 2018, 28, 025401.	0.6	15
22	Gain dynamics in a pulsed laser amplifier on $\text{CO}^*\text{He}$ , $\text{CO}^*\text{N}_2$ and $\text{CO}^*\text{O}_2$ gas mixtures. Quantum Electronics, 2007, 37, 111-117.	0.3	14
23	Three-stage frequency conversion of sub-microsecond multiline CO laser pulse in a single $\text{ZnGeP}_2$ crystal. Optics Letters, 2018, 43, 3184.	1.7	14
24	CO laser sum-frequency comb for atmosphere sensing. Infrared Physics and Technology, 2019, 100, 62-66.	1.3	13
25	Frequency doubling and mixing of the radiation of carbon monoxide lasers in nonlinear $\text{ZnGeP}_2$ and GaSe crystals. Journal of Optical Technology (A Translation of Opticheskii Zhurnal), 2011, 78, 102.	0.2	12
26	Master Oscillator-Power Amplifier carbon monoxide laser system emitting nanosecond pulses. Optics Communications, 2012, 285, 2707-2714.	1.0	12
27	Influence of nitrogen oxides NO and $\text{NO}_2$ on singlet delta oxygen production in pulsed discharge. Journal Physics D: Applied Physics, 2009, 42, 015201.	1.3	11
28	Multiquantum vibrational exchange in highly excited CO molecules. Quantum Electronics, 2000, 30, 573-579.	0.3	10
29	Remote Sensing of Nitrous Oxide and Methane Using Emission Lines of a CO Overtone Laser. Journal of Applied Spectroscopy, 2014, 81, 309-312.	0.3	10
30	Q-switched repetitively pulsed cryogenic slab RF discharge CO laser with active medium comprising air. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	10
31	Pulsed laser operating on the first vibrational overtone of the CO molecule in the 2.5 $\mu\text{m}$ - 4.2 $\mu\text{m}$ range: 3. The gain and kinetic processes on high vibrational levels. Quantum Electronics, 2002, 32, 404-410.	0.3	9
32	Pulsed electron-beam-sustained discharge in oxygen-containing gas mixtures: electrical characteristics, spectroscopy, and singlet oxygen yield. Quantum Electronics, 2004, 34, 865-870.	0.3	9
33	Wideband CO laser in problems of laser sensing of minor gaseous components in the atmosphere. Russian Physics Journal, 2008, 51, 1200-1207.	0.2	9
34	Mid-IR Zeeman spectrum of nitric oxide molecules in a strong magnetic field. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 025403.	0.6	8
35	Application of an overtone CO laser for remote gas analysis of the atmosphere. Atmospheric and Oceanic Optics, 2013, 26, 68-73.	0.6	8
36	Multifrequency laser probing of CO-containing gas mixtures excited in a pulsed discharge. Quantum Electronics, 2007, 37, 231-236.	0.3	7

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37	Pulsed electron-beam sustained discharge CO laser on oxygen-containing gas mixtures. Quantum Electronics, 2008, 38, 115-124.	0.3	7
38	Influence of multi-line CO laser focusing on broadband sum-frequency generation. Laser Physics Letters, 2017, 14, 065401.	0.6	7
39	Interaction of pulsed CO and CO <sub>2</sub> laser radiation with rocks typical of an oil field. , 2000, 3885, 159.		6
40	Theoretical modelling and experimental studies of the multi-quantum vibration exchange in vibrationally excited CO molecules. Journal Physics D: Applied Physics, 2001, 34, 2230-2236.	1.3	6
41	Influence of small oxygen additions on the small-signal-gain dynamics in the active medium of a pulsed electron-beam-controlled discharge CO laser. Quantum Electronics, 2008, 38, 833-839.	0.3	6
42	Broadband frequency conversion of laser radiation in ZnGeP <sub>2</sub> crystal. Bulletin of the Lebedev Physics Institute, 2014, 41, 222-225.	0.1	6
43	CO laser frequency mixing in nonlinear crystals ZnGeP <sub>2</sub> and GaSe. Guangxue Jingmi Gongcheng/Optics and Precision Engineering, 2012, 20, 277-286.	0.2	6
44	Breakdown of highly excited oxygen in a DC electric field. Plasma Physics Reports, 2000, 26, 278-282.	0.3	5
45	The methods of singlet oxygen detection for DOIL program. , 2004, , .		5
46	Singlet oxygen in the low-temperature plasma of an electron-beam-sustained discharge. Plasma Physics Reports, 2006, 32, 429-439.	0.3	5
47	Frequency conversion of radiation of IR molecular gas lasers in nonlinear crystals (A review). Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2015, 119, 356-362.	0.2	5
48	Spectral characteristics of multi-line Q-switched CO laser radiation frequency converted in ZnGeP <sub>2</sub> . Applied Physics B: Lasers and Optics, 2017, 123, 1.	1.1	5
49	Pulsed frequency-selective tunable Q-switched CO laser excited by an electron-beam-controlled discharge. Quantum Electronics, 1997, 27, 189-194.	0.3	4
50	Broadband hybrid IR laser system emitting within 2.5-16.57 micron. Proceedings of SPIE, 2014, , .	0.8	4
51	Optical properties of PbIn <sub>6</sub> Te <sub>10</sub> in the long-wave IR. Laser Physics Letters, 2016, 13, 125405.	0.6	4
52	Selection of CO laser single nanosecond pulse by electro-optic CdTe shutter. Infrared Physics and Technology, 2017, 85, 347-351.	1.3	4
53	Temperature phase-matching tuning of nonlinear ZnGeP <sub>2</sub> crystal for frequency conversion under noncritical spectral phase-matching. Infrared Physics and Technology, 2019, 102, 103009.	1.3	4
54	<title>Application of CO laser for frequency-selective surface heat treatment of polymer materials</title>. , 1998, 3343, 1032.		3

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55	Interaction of pulsed CO and CO. Proceedings of SPIE, 2000, 4065, 602.	0.8	3
56	Singlet delta oxygen production in e-beam sustained discharge: theory and experiment. , 2005, 5777, 207.		3
57	Gain dynamics in the active medium of a pulsed e-beam sustained discharge CO laser: theory and experiment. Quantum Electronics, 2005, 35, 1107-1112.	0.3	3
58	Nonlinear Zeeman splitting of nitric oxide spectral lines in magnetic field. Proceedings of SPIE, 2007, , .	0.8	3
59	A Broadband Infrared Laser Source (2.5â€“17 Î¼m) for Plasma Diagnostics. Physics of Atomic Nuclei, 2017, 80, 1635-1641.	0.1	3
60	Active medium of molecular CO <sub>2</sub> and CO lasers as a nonlinear component of a phase-conjugating mirror. Quantum Electronics, 1994, 24, 513-516.	0.3	2
61	Frequency-selective surface processing of polymer materials by pulsed CO laser radiation. Quantum Electronics, 1997, 27, 744-748.	0.3	2
62	Multiquantum VV-exchange modeling of the pulsed Q-switched frequency selected CO laser. , 1997, , .		2
63	Electron-beam sustained discharge in oxygen gas mixtures: singlet delta oxygen production for oxygen-iodine laser. , 2004, , .		2
64	Transverse gas flow RF slab discharge generator of singlet delta oxygen for oxygen-iodine laser. Proceedings of SPIE, 2010, , .	0.8	2
65	CO laser frequency conversion in nonlinear crystals ZnGeP <sub>2</sub> and GaSe. Proceedings of SPIE, 2010, , .	0.8	2
66	Frequency conversion of multi-line carbon monoxide laser in PbIn <sub>6</sub> Te <sub>10</sub> crystal. , 2016, , .		2
67	Spectral characteristics of Q-switched CO laser. Journal of Physics: Conference Series, 2017, 941, 012006.	0.3	2
68	Super-broadband hybrid mid-infrared laser systems. , 2019, , .		2
69	&lt;title&gt;Frequency-selected surface heat treatment of polymeric materials by pulsed CO laser radiation&lt;/title&gt;. Proceedings of SPIE, 1997, 2993, 239.	0.8	1
70	Electric properties, spectroscopy, and singlet delta oxygen yield of electron-beam sustained discharge in oxygen gas mixtures. , 2004, , .		1
71	CO laser: advances in theory and experiment. , 2005, , .		1
72	Influence of nitrogen oxides on singlet delta oxygen production in pulsed electric discharge for oxygen-iodine laser. , 2008, , .		1

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73	Spectroscopic analysis of multicomponent gas mixtures with wide range carbon monoxide laser. Proceedings of SPIE, 2010, , .	0.8	1
74	Gas-Flow Slab RF Discharge as a Source of Singlet Delta Oxygen for Oxygen Iodine Laser. , 2010, , .		1
75	MOPA carbon monoxide laser system emitting nanosecond pulses. Proceedings of SPIE, 2012, , .	0.8	1
76	Zeeman Effect treatment in the infrared spectrum of the nitric oxide molecule. , 2014, , .		1
77	Absorption Dynamics of Nitric Oxide in Gas Mixtures Excited by Pulsed Discharge. Physics Procedia, 2015, 71, 247-251.	1.2	1
78	Absorption of the CO laser sum frequency radiation obtained in a nonlinear crystal AgGaSe <sub>2</sub> by molecular gases. Journal of Physics: Conference Series, 2016, 769, 012042.	0.3	1
79	Diagnostics of Low Temperature Plasma by CO Laser Radiation (5.0-7.5 $\mu$ m). Journal of Physics: Conference Series, 2016, 666, 012020.	0.3	1
80	Difference frequency generation of CO and CO <sub>2</sub> lasers in PbIn <sub>6</sub> Te <sub>10</sub> crystal. , 2016, , .		1
81	Numerical model of Zeeman splitting of ro-vibrational lines in the fundamental band of NO molecule. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 177, 216-224.	1.1	1
82	Absorption in N <sub>2</sub> O and CH <sub>4</sub> of overtone CO laser radiation measured by the using a topographic target and receiving telescope. , 2016, , .		1
83	Numerical simulation of sum frequency generation spectrum in nonlinear crystals with considering dynamics of generation. Journal of Physics: Conference Series, 2017, 941, 012005.	0.3	1
84	THz sources based on frequency conversion of multi-line molecular lasers in nonlinear crystals and on optically pumped molecular lasers. EPJ Web of Conferences, 2018, 195, 03004.	0.1	1
85	Sum frequency conversion of multiline CO laser emission in BaGa <sub>2</sub> GeSe <sub>6</sub> crystal of one cm long. Journal of Physics: Conference Series, 2019, 1189, 012023.	0.3	1
86	<title>Phase-conjugation of high-power molecular CO <sub>2</sub> and CO lasers radiation inside their active medium</title>. , 1994, 2206, 230.		0
87	<title>Active medium of long-pulsed CO <sub>2</sub> and CO laser as a phase conjugating mirror</title>. , 1995, , .		0
88	Frequency-selected Q-switched electron-beam-controlled discharge CO laser. , 1996, , .		0
89	Parametric study of intracavity degenerate four-wave mixing and phase conjugation of CO <sub>2</sub> and CO lasers radiation in their inverted medium. , 1997, , .		0
90	Short pulse (~1-10 $\mu$ s) e-beam-controlled discharge CO laser with selected wavelengths. , 1997, , .		0

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91	Frequency-selected Q-switched e-beam-controlled discharge CO laser and its applications. , 1998, , .		0
92	Multiquantum vibrational exchange in vibration-excited CO molecules. , 2001, , .		0
93	Small-signal gain and kinetic processes on highly excited vibrational levels in active medium of pulsed first-overtone CO laser. , 2002, , .		0
94	Applications of high-power laser technology to wide-bandgap nitride semiconductor processing. , 2002, 4760, 143.		0
95	<title>Small signal gain time behavior on high vibrational transitions ( $V>15$ ) of pulsed CO laser amplifier</title>. , 2004, 5479, 156.		0
96	The feature of laser ablation of fused and crystal silica and natural silicates induced by pulsed CO 2 laser irradiation. , 2004, , .		0
97	Measurements of the thermodynamic parameters for CO laser gas mixtures excited by pulsed electron-beam sustained discharge. , 2005, , .		0
98	Time behavior of small-signal gain on high vibrational transitions for pulsed CO laser amplifier with gas mixtures CO:He, CO:N <sub>2</sub> , and CO:O <sub>2</sub> . , 2005, 5777, 418.		0
99	Pulsed CO laser and laser amplifier operating on oxygen containing gas mixtures. , 2006, , .		0
100	<title>Supersonic overtone CO laser: research and development</title>. , 2006, 6263, 18.		0
101	<title>Fundamental and overtone band lasing in RF discharge supersonic CO laser</title>. , 2006, 6053, 63.		0
102	<title>Investigation of laser ablation of fused and crystal silica and natural silicates induced by pulsed CO<math>\langle inf \rangle \langle roman \rangle 2 \langle /roman \rangle \langle /math \rangle</math> laser irradiation</title>. , 2006, 6053, 227.		0
103	The pulsed CO<math>\langle inf \rangle 2 \langle /inf \rangle</math> laser induced ablation of quartz, fused silica and natural silicates. , 2007, , .		0
104	Pulsed CO laser operating on gas mixtures with high oxygen content. Proceedings of SPIE, 2007, , .	0.8	0
105	Small signal gain in a pulsed CO laser amplifier operating on oxygen containing gas mixtures. , 2007, , .		0
106	Carbon monoxide laser emitting nanosecond pulses with 10 MHz repetition rate. , 2008, , .		0
107	Influence of nitrogen oxides NO and NO 2 additives on singlet oxygen production in pulsed electron-beam sustained discharge. , 2008, , .		0
108	Mode-locked electron-beam sustained discharge CO laser. Proceedings of SPIE, 2008, , .	0.8	0

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109	Two-Stage Frequency Conversion of CO Laser in a Single ZnGeP <sub>2</sub> Crystal. , 2013, , .		0
110	Short pulse CO laser systems and their applications in nonlinear IR optics. , 2014, , .		0
111	CO and CO <sub>2</sub> laser radiation frequency conversion IN GaSe and ZGP: Broadband laser source emitting within 2.5 &#x2013; 13.1 microns. , 2014, , .		0
112	Mid-IR broadband frequency conversion of laser radiation in ZnGeP <sub>2</sub> , GaSe and AgGaSe <sub>2</sub> crystals. , 2014, , .		0
113	Simulation of the LMR spectra in the 0â€“1 band of NO molecule. Proceedings of SPIE, 2015, , .	0.8	0
114	Difference frequencies of CO and CO <sub>2</sub> lasers when tuning phase-matching angle in AgGaSe <sub>2</sub> crystal. , 2016, , .		0
115	Dependence of Zeeman splitting of spectral lines on the magnetic field magnitude for NO molecule. Atmospheric and Oceanic Optics, 2016, 29, 103-118.	0.6	0
116	â€œWhite lightâ€mid-infrared gas laser systems. , 2016, , .		0
117	The CO laser sum frequency radiation obtained in a nonlinear crystals AgGaSe <sub>2</sub> and ZnGeP <sub>2</sub> and its absorption in CO <sub>2</sub> and N <sub>2</sub> O gases. , 2016, , .		0
118	Multiline CO <sub>2</sub> laser with Q-switching for generation of terahertz radiation. Journal of Physics: Conference Series, 2017, 941, 012004.	0.3	0
119	Intracavity frequency conversion of multiline CO laser radiation in nonlinear crystal BaGa <sub>2</sub> GeS <sub>6</sub> . , 2018, , .		0
120	Mid-IR comb of CO laser sum-frequency lines. , 2018, , .		0
121	Numerical Study of CO Laser Down-Conversion into the THz Range With ZnGeP <sub>2</sub> crystal. , 2019, , .		0
122	Frequency Conversion of Broadband mid-IR Carbon Monoxide Laser Radiation into THz Range. , 2019, , .		0
123	Optimization of active medium composition for Q-switched slab RF-discharge CO laser. , 2018, , .		0
124	Role of ozone in cryogenic plasma of carbon monoxide laser. , 2019, , .		0
125	Multiline CO laser with broadband frequency conversion in nonlinear crystals for gas analysis applications. , 2020, , .		0
126	Broadband CO Laser with Intracavity Frequency Conversion for Plasma Diagnostics. Physics of Atomic Nuclei, 2021, 84, 1789-1795.	0.1	0