

# Dimitrii Kozlov

## List of Publications by Year in descending order

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67  
papers

805  
citations

471371

17  
h-index

580701

25  
g-index

67  
all docs

67  
docs citations

67  
times ranked

396  
citing authors

#	ARTICLE	IF	CITATIONS
1	On the influence of electronically excited oxygen molecules on combustion of hydrogen-oxygen mixture. Journal Physics D: Applied Physics, 2008, 41, 192001.	1.3	71
2	Local fuel concentration measurements for mixture formation diagnostics using diffraction by laser-induced gratings in comparison to spontaneous Raman scattering. Journal of Raman Spectroscopy, 2008, 39, 711-721.	1.2	46
3	Gas phase diagnostics by laser-induced gratings I. theory. Applied Physics B: Lasers and Optics, 2005, 81, 101-111.	1.1	44
4	Broadband time-domain absorption spectroscopy with a ns-pulse supercontinuum source. Optics Express, 2010, 18, 22762.	1.7	32
5	Temperature and flow-velocity measurements by use of laser-induced electrostrictive gratings. Optics Letters, 2000, 25, 1340.	1.7	31
6	Gas-phase diagnostics by laser-induced gratings II. Experiments. Applied Physics B: Lasers and Optics, 2005, 81, 113-129.	1.1	31
7	Study of processes of translational, rotational, and vibrational relaxation based on CARS spectra line shapes. Applied Physics B, Photophysics and Laser Chemistry, 1989, 48, 273-283.	1.5	29
8	The methane $\nu_2$ (a <sub>1</sub> ) vibrational state rotational structure obtained from high-resolution CARS-spectra of the Q-branch. Journal of Molecular Spectroscopy, 1979, 77, 21-28.	0.4	28
9	Dual-broadband CARS temperature measurements in hydrogen-oxygen atmospheric pressure flames. Applied Physics B: Lasers and Optics, 2000, 70, 127-131.	1.1	26
10	Etude des bandes fondamentales en interaction du 28SiH <sub>4</sub> Å partir de l'Hamiltonien développÃ© au 3e ordre. Journal De Physique, 1982, 43, 1429-1436.	1.8	26
11	Collisional relaxation of singlet O <sub>2</sub> in neat gas investigated by laser-induced grating technique. Chemical Physics, 2003, 291, 213-242.	0.9	24
12	Time-resolved measurement of the local equivalence ratio in a gaseous propane injection process using laser-induced gratings. Optics Express, 2006, 14, 12994.	1.7	22
13	Simultaneous measurements of fuel vapor concentration and temperature in a flash-boiling propane jet using laser-induced gratings. Journal of Raman Spectroscopy, 2013, 44, 1356-1362.	1.2	22
14	Rocket nozzle cold-gas flow velocity measurements using laser-induced gratings. Journal of Raman Spectroscopy, 2002, 33, 912-918.	1.2	20
15	Determination of Physicochemical Parameters of Ionic Liquids and Their Mixtures with Solvents Using Laser-Induced Gratings. Journal of Physical Chemistry B, 2011, 115, 8528-8533.	1.2	19
16	Simultaneous Measurement of Speed of Sound, Thermal Diffusivity, and Bulk Viscosity of 1-Ethyl-3-methylimidazolium-Based Ionic Liquids Using Laser-Induced Gratings. Journal of Physical Chemistry B, 2014, 118, 14493-14501.	1.2	19
17	Measurement of gas jet flow velocities using laser-induced electrostrictive gratings. Applied Physics B: Lasers and Optics, 2000, 71, 585-591.	1.1	18
18	Generation and temporally resolved detection of laser-induced gratings by a single, pulsed Nd:YAG laser. Applied Optics, 1999, 38, 1001.	2.1	16

#	ARTICLE	IF	CITATIONS
19	Detection of vibrational overtone excitation in methane by laser-induced grating spectroscopy. Journal of Raman Spectroscopy, 2008, 39, 730-738.	1.2	16
20	Laser-induced grating spectroscopy of highly excited overtone and combination vibrational states of methane. Journal of Molecular Spectroscopy, 2013, 291, 23-32.	0.4	15
21	Transient Grating Spectroscopy in a Hot Turbulent Compressible Free Jet. Journal of Propulsion and Power, 2005, 21, 1008-1018.	1.3	14
22	Polarizability of electronically excited molecular oxygen: theory and experiment. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 045101.	0.6	14
23	Laser-induced gratings in the gas phase excited by Raman-active transitions. Optics Letters, 1997, 22, 46.	1.7	13
24	Diagnostics of water-containing gas mixtures using thermal laser-induced gratings. Chemical Physics, 2006, 320, 103-117.	0.9	13
25	Direct absorption transitions to highly excited polyads 8, 10, and 12 of methane. Physical Review A, 2010, 82, .	1.0	13
26	Collisional relaxation and internal energy redistribution in NO <sub>2</sub> investigated by means of laser-induced thermal grating technique. Chemical Physics Letters, 2000, 332, 375-380.	1.2	12
27	Simultaneous characterization of flow velocity and temperature fields in a gas jet by use of electrostrictive laser-induced gratings. Applied Physics B: Lasers and Optics, 2005, 80, 377-387.	1.1	12
28	Excitation of laser-induced thermal gratings in the gas phase via Raman-active transitions. Optics Communications, 1999, 166, 245-254.	1.0	10
29	Intensification of hydrogen-oxygen mixture combustion in subsonic flow due to excitation of O <sub>2</sub> molecules to the a 1 <sup>st</sup> g electronic state in electric discharge. Doklady Physics, 2009, 54, 67-71.	0.2	10
30	Study of collisional deactivation of O <sub>2</sub> (b 1 <sup>st</sup> g + ) molecules in a hydrogen-oxygen mixture at high temperatures using laser-induced gratings. Journal of Experimental and Theoretical Physics, 2013, 117, 36-47.	0.2	10
31	Surface-enhanced micro-CARS mapping of a nanostructured cerium dioxide/aluminum film surface with gold nanoparticle-bound organic molecules. Journal of Raman Spectroscopy, 2018, 49, 1145-1154.	1.2	10
32	Polarization- and time-resolved DFWM spectroscopy of the A <sup>2</sup> Σ <sup>+</sup> X <sup>2</sup> Σ <sup>+</sup> (0,0) band transitions of nascent OH radicals generated by 266-nm laser photolysis of H <sub>2</sub> O <sub>2</sub> . Journal of Raman Spectroscopy, 2013, 44, 1349-1355.	1.2	9
33	Temperature fluctuations in turbulent flame measured using coherent anti-Stokes Raman scattering. Technical Physics Letters, 2015, 41, 756-758.	0.2	9
34	Characterization of the structure of modified clay by Raman spectroscopy. Laser Physics Letters, 2005, 2, 285-291.	0.6	8
35	Automated high-resolution CARS spectrometer and coherent spectroscopy of the Raman scattering by tetrahedral molecules. Soviet Journal of Quantum Electronics, 1980, 10, 740-743.	0.1	7
36	The analysis of the precision of single shot 2 <sup>nd</sup> -CARS temperature measurements in hydrogen. Applied Physics B: Lasers and Optics, 1997, 65, 619-624.	1.1	7

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37	High resolution cars and infrared spectroscopy of the $\nu_1(a_1)$ and $\nu_3(f_2)$ vibrational states of $^{28}\text{SiH}_4$ and $^{74}\text{GeH}_4$ . Optics Communications, 1980, 35, 218-220.	1.0	6
38	Infrared CARS spectrometer with $0.001\text{ cm}^{-1}$ resolution in the $1900\text{--}5000\text{ cm}^{-1}$ range. Soviet Journal of Quantum Electronics, 1981, 11, 135-137.	0.1	6
39	Two wavelength-CARS thermometry of hydrogen. Applied Physics B: Lasers and Optics, 1996, 62, 279-285.	1.1	6
40	Two-photon stimulated Raman excitation of thermal laser-induced gratings in molecular gases using broadband radiation of a single laser. Optics Express, 2008, 16, 18379.	1.7	6
41	CARS studies of bending states of $\text{CO}_2$ : evidence of collisional rotational transitions with odd $\hat{J}$ . Chemical Physics, 1998, 236, 15-24.	0.9	5
42	Determination of local concentration of $\text{H}_2\text{O}$ molecules and gas temperature in the process of hydrogen-oxygen gas mixture heating by means of linear and nonlinear laser spectroscopy. Quantum Electronics, 2013, 43, 79-86.	0.3	5
43	Laser Spectrometric Measurement System for Local Express Diagnostics of Flame at Combustion of Liquid Hydrocarbon Fuels. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2016, 120, 492-499.	0.2	5
44	CARS thermometry in a transversely heated graphite-tube atomizer used in atomic absorption spectrometry. Applied Physics B: Lasers and Optics, 1995, 61, 201-205.	1.1	4
45	Novel non-linear optical techniques for diagnostics: laser-induced gratings and two-colour four-wave mixing. Comptes Rendus Physique, 2001, 2, 1001-1012.	0.1	4
46	Laser intensity limits in surface-enhanced linear and nonlinear Raman microspectroscopy of organic molecule/Au nanoparticle conjugates. Journal of Raman Spectroscopy, 2019, 50, 1311-1320.	1.2	4
47	Three-color vibrational CARS thermometry of fuel-rich ethylene/air flames using a potassium gadolinium tungstate Raman-active crystal as a source of narrowband probe radiation. Applied Optics, 2017, 56, E77.	2.1	4
48	Rotational relaxation of nitrogen in argon: Collisional broadening of Q-branch components in coherent Raman spectra of cooled gas. Journal of Raman Spectroscopy, 1991, 22, 403-407.	1.2	3
49	Two-wavelength CARS thermometry based on S-branch rotational transitions in the hydrogen molecule. Quantum Electronics, 1997, 27, 1019-1023.	0.3	3
50	Two-color non-linear spectroscopy: application to $\text{NO}_2$ . Comptes Rendus Physique, 2001, 2, 1013-1027.	0.1	3
51	Experimental Study of the Diffusion Combustion of Suspension of Boron Nanoparticles in Isopropanol. Doklady Physics, 2022, 67, 39-43.	0.2	3
52	Fluorescence examinations of patients with tumors of different localizations in the course of photodynamic therapy with photosensitizer photosens. , 1996, , .		2
53	Comparison of Raman-active crystals as a narrowband probe light source for picosecond three-color vibrational CARS thermometry. Journal of Raman Spectroscopy, 2017, 48, 1026-1032.	1.2	2
54	Cascade Brillouin scattering as a mechanism for photoluminescence from rough surfaces of noble metals. Physical Review B, 2021, 103, .	1.1	2

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55	<title>Diagnostics in gases by transient laser-induced electrostrictive gratings</title> . , 1999, , .		1
56	Temperature distribution above a heated surface in a CVD reactor with hydrocarbon-containing gaseous mixtures. Applied Physics B: Lasers and Optics, 2000, 70, 123-126.	1.1	1
57	Plasmon resonance, thermal, and optical contributions to anti-Stokes to Stokes line strength ratios in continuous wave-excited surface-enhanced Raman scattering spectra of molecules at random Ag surface. Journal of Raman Spectroscopy, 2021, 52, 1515-1528.	1.2	1
58	Incoherent scattering from dielectric metasurfaces under the influence of electromagnetic eigenmodes. Optics Express, 2019, 27, 21701.	1.7	1
59	Laser diagnostics of atomization and combustion of kerosene in a model combustion chamber. Laser Physics, 2020, 30, 115602.	0.6	1
60	Measurements of the local temperature correlation time in a turbulent flame using coherent anti-Stokes Raman spectroscopy. Journal of Physics: Conference Series, 2021, 2127, 012012.	0.3	1
61	<title>2lambda-CARS thermometry of hydrogen</title> . , 1996, 2797, 154.		0
62	<title>Dual-broadband CARS thermometry in a $H_2/O_2$ atmospheric pressure diffusion flame</title> . , 1999, , .		0
63	Resonant four-wave mixing spectra: A fresh look at photodissociation dynamics. Journal of Physics: Conference Series, 2014, 548, 012016.	0.3	0
64	Measurements of temperature spatial distribution and fluctuations in a hydrogen-oxygen flame at high pressures by means of coherent anti-Stokes Raman spectroscopy. High Temperature, 2017, 55, 263-272.	0.1	0
65	Methane-air flame thermometry using planar laser-induced fluorescence (PLIF). MATEC Web of Conferences, 2018, 209, 00002.	0.1	0
66	Shifted vibrational CARS thermometry in a sooting flame using a Raman crystal as narrowband light source. , 2016, , .		0
67	Optical diagnostics of atomization and combustion of kerosene in a model combustion chamber for a gas turbine engine. AIP Conference Proceedings, 2020, , .	0.3	0