Alexander M Starik

List of Publications by Year
in descending order

188	2,340	25	37
papers	citations	h-index	g-index
		236925	330143

189	189	189	1126
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Experimental characterization of aircraft combustor soot: Microstructure, surface area, porosity and water adsorption. Physical Chemistry Chemical Physics, 2000, 2, 4421-4426.	2.8	97
2	On the influence of electronically excited oxygen molecules on combustion of hydrogenâ€“oxygen mixture. Journal Physics D: Applied Physics, 2008, 41, 192001.	2.8	71
3	On the influence of singlet oxygen molecules on the speed of flame propagation in methaneâ€“air mixture. Combustion and Flame, 2010, 157, 313-327.	5.2	71
4	Title is missing!. Kinetics and Catalysis, 2003, 44, 28-39.	1.0	67
5	Modeling of sulfur gases and chemiions in aircraft engines. Aerospace Science and Technology, 2002, 6, 63-81.	4.8	56
6	Syngas Oxidation Mechanism. Combustion, Explosion and Shock Waves, 2010, 46, 491-506.	0.8	52
7	Theoretical analysis of reaction kinetics with singlet oxygen molecules. Physical Chemistry Chemical Physics, 2011, 13, 16424.	2.8	50
8	Comprehensive analysis of the effect of atomic and molecular metastable state excitation on air plasma composition behind strong shock waves. Plasma Sources Science and Technology, 2010, 19, 015007.	3.1	48
9	Experimental study of combustion of composite fuel comprising n-decane and aluminum nanoparticles. Combustion and Flame, 2015, 162, 3554-3561.	5.2	46
10	Numerical analysis of nanoaluminum combustion in steam. Combustion and Flame, 2014, 161, 1659-1667.	5.2	44
11	Physics and chemistry of the influence of excited molecules on combustion enhancement. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140341.	3.4	42
12	Kinetics of Al + H₂O Reaction: Theoretical Study. Journal of Physical Chemistry A, 2011, 115, 4476-4481.	2.5	40
13	Intensification of shock-induced combustion by electric-discharge-excited oxygen molecules: numerical study. Combustion Theory and Modelling, 2010, 14, 653-679.	1.9	37
14	Modeling study of combustion and pollutant formation in HCCI engine operating on hydrogen rich fuel blends. International Journal of Hydrogen Energy, 2016, 41, 3689-3700.	7.1	35
15	Evolution of charged species in propane/air flames: mass-spectrometric analysis and modelling. Plasma Sources Science and Technology, 2007, 16, 161-172.	3.1	33
16	Modeling study of gas-turbine combustor emission. Proceedings of the Combustion Institute, 2009, 32, 2941-2947.	3.9	31
17	Theoretical evaluation of diffusion coefficients of (Al2O3)n clusters in different bath gases. European Physical Journal D, 2014, 68, 1.	1.3	31
18	The promotion of ignition in a supersonic H2â€“air mixing layer by laser-induced excitation of O2 molecules: Numerical study. Combustion and Flame, 2009, 156, 1641-1652.	5.2	30

#	Article	IF	Citations
19	Application of state-to-state approach in estimation of thermally nonequilibrium reaction rate constants in mode approximation. Chemical Physics, 2012, 398, 73-80.	1.9	29
20	On the influence of singlet oxygen molecules on characteristics of HCCI combustion: A numerical study. Combustion Theory and Modelling, 2013, 17, 579-609.	1.9	29
21	Physical and Thermodynamic Properties of Al_{<i>n</i>}C_{<i>m</i>} Clusters: Quantum-Chemical Study. Journal of Physical Chemistry A, 2015, 119, 1369-1380.	2.5	29
22	Specific features of ignition and combustion of composite fuels containing aluminum nanoparticles (Review). Combustion, Explosion and Shock Waves, 2015, 51, 197-222.	0.8	29
23	Possibility of Initiation of Combustion of CH4â€“O2(Air) Mixtures with Laser-Induced Excitation of O2Molecules. Combustion, Explosion and Shock Waves, 2004, 40, 499-510.	0.8	27
24	Comprehensive analysis of combustion initiation in methaneâ€“air mixture by resonance laser radiation. Journal Physics D: Applied Physics, 2009, 42, 175503.	2.8	27
25	Theoretical Study of the Reaction of Ethane with Oxygen Molecules in the Ground Triplet and Singlet Delta States. Journal of Physical Chemistry A, 2012, 116, 8444-8454.	2.5	27
26	Evaluation of Prediction Ability of Detailed Reaction Mechanisms in the Combustion Performance in Hydrogen/Air Supersonic Flows. Combustion Science and Technology, 2013, 185, 62-94.	2.3	26
27	Kinetics of Ignition and Combustion in the Alâ€“CH₄â€“O₂ System. Energy & Fuels, 2014, 28, 6579-6588.	5.1	25
28	Kinetic mechanism of propane ignition and combustion in air. Combustion, Explosion and Shock Waves, 2011, 47, 249-264.	0.8	24
29	Quantum chemical study of small BnCm cluster structures and their physical properties. European Physical Journal D, 2015, 69, 1.	1.3	24
30	Kinetics of Ion Formation in the Volumetric Reaction of Methane with Air. Combustion, Explosion and Shock Waves, 2002, 38, 253-268.	0.8	23
31	Evaluation of the reaction rate constants for the gas-phase Al-CH₄â€“air combustion chemistry. Combustion Theory and Modelling, 2012, 16, 842-868.	1.9	23
32	Kinetic mechanism of COâ€“H2 system oxidation promoted by excited singlet oxygen molecules. Combustion and Flame, 2012, 159, 16-29.	5.2	23
33	Kinetics of oxidation and combustion of complex hydrocarbon fuels: Aviation kerosene. Combustion, Explosion and Shock Waves, 2013, 49, 392-408.	0.8	23
34	Enhancement of combustion of a hydrogen-air mixture by excitation of O2 molecules to the a 1Î” g state. Combustion, Explosion and Shock Waves, 2008, 44, 371-379.	0.8	22
35	The influence of vibrations of polyatomic molecules on dipole moment and static dipole polarizability: theoretical study. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 165101.	1.5	22
36	Low-temperature initiation of the detonation combustion of gas mixtures in a supersonic flow under excitation of the O2(a 1Î”g) state of molecular oxygen. Doklady Physics, 2001, 46, 627-632.	0.7	21

#	Article	IF	Citations
37	On mechanisms of a flame velocity increase upon activation of O₂molecules in electrical discharge. Journal Physics D: Applied Physics, 2008, 41, 125206.	2.8	21
38	Modeling of vibrationâ€“electronicâ€“chemistry coupling in the atomicâ€“molecular oxygen system. Chemical Physics, 2009, 360, 18-26.	1.9	21
39	On kinetic mechanisms of n-decane oxidation. Combustion, Explosion and Shock Waves, 2011, 47, 129-146.	0.8	21
40	The features of ignition and combustion of composite propane-hydrogen fuel: Modeling study. International Journal of Hydrogen Energy, 2014, 39, 6764-6773.	7.1	21
41	Mechanism of the initiation of combustion in CH4(C2H2)/Air/O3 mixtures by laser excitation of the O3 molecules. Kinetics and Catalysis, 2007, 48, 348-366.	1.0	20
42	Theoretical study of structure and physical properties of (Al₂O₃)_{<i>n</i>}clusters. Physica Scripta, 2013, 88, 058307.	2.5	20
43	Influence of vibrations and rotations of diatomic molecules on their physical properties: I. Dipole moment and static dipole polarizability. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 125102.	1.5	20
44	Influence of vibrations and rotations of diatomic molecules on their physical properties: II. Refractive index, reactivity and diffusion coefficients. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 125103.	1.5	20
45	Analysis of emission characteristics of gas turbine engines with some alternative fuels. International Journal of Green Energy, 2018, 15, 161-168.	3.8	20
46	Control of combustion by generation of singlet oxygen molecules in electrical discharge. European Physical Journal D, 2006, 56, B1357-B1363.	0.4	19
47	Effect of aerosol precursors from gas turbine engines on the volatile sulfate aerosols and ion clusters formation in aircraft plumes. Physical Chemistry Chemical Physics, 2004, 6, 3426.	2.8	18
48	Hydration of aircraft engine soot particles under plume conditions: Effect of sulfuric and nitric acid processing. Journal of Geophysical Research, 2007, 112, .	3.3	18
49	Comprehensive analysis of combustion enhancement mechanisms in a supersonic flow of CH₄â€"O₂mixture with electric-discharge-activated oxygen molecules. Plasma Sources Science and Technology, 2012, 21, 035015.	3.1	18
50	Thermally nonequilibrium effects in shock-induced nitrogen plasma: modelling study. Plasma Sources Science and Technology, 2013, 22, 035013.	3.1	18
51	The formation of (Al2O3)n clusters as a probable mechanism of aluminum oxide nucleation during the combustion of aluminized fuels: Numerical analysis. Combustion and Flame, 2018, 196, 223-236.	5.2	18
52	Initiation of combustion of a CH4-O2 mixture in a supersonic flow with excitation of O2 molecules by an electric discharge. Combustion, Explosion and Shock Waves, 2008, 44, 249-261.	0.8	17
53	The Effect of the Vibrational Excitation of Molecules on the Shock-Induced Combustion in a Syngas-Air Mixture. Combustion Science and Technology, 2010, 183, 75-103.	2.3	17
54	Modeling study of the acceleration of ignition in ethaneâ€"air and natural gasâ€"air mixtures via photochemical excitation of oxygen molecules. Combustion and Flame, 2017, 176, 81-93.	5.2	17

#	Article	IF	Citations
55	Activation of Chain Processes in Combustible Mixtures by Laser Excitation of Molecular Vibrations of Reactants. Combustion, Explosion and Shock Waves, 2005, 41, 386-394.	0.8	16
56	Formation of charged nanoparticles in hydrocarbon flames: principal mechanisms. Plasma Sources Science and Technology, 2008, 17, 045012.	3.1	16
57	Modeling study of hydrogen production via partial oxidation of H 2 Sâ€“H 2 O blend. International Journal of Hydrogen Energy, 2017, 42, 10854-10866.	7.1	16
58	Intensification of the oxidation of rich methane/air mixtures by O2 molecules excited to the a 1Î”g state. Kinetics and Catalysis, 2006, 47, 487-496.	1.0	15
59	Interaction of ions and electrons with nanoparticles in hydrocarbon combustion plasmas. Technical Physics, 2006, 51, 444-452.	0.7	15
60	Theoretical Study of the Reaction of Carbon Monoxide with Oxygen Molecules in the Ground Triplet and Singlet Delta States. Journal of Physical Chemistry A, 2011, 115, 1795-1803.	2.5	15
61	Analysis of the reaction and quenching channels in a H + O₂(<i>a</i>¹Î”_g) system. Physica Scripta, 2013, 88, 058305.	2.5	15
62	Theoretical Study of the Reactions of Ethanol with Aluminum and Aluminum Oxide. Journal of Physical Chemistry A, 2015, 119, 3897-3904.	2.5	15
63	Kinetic mechanisms for the initiation of supersonic combustion of a hydrogen-air mixture behind a shock wave under the excitation of molecular vibrations in initial reagents. Technical Physics, 2001, 46, 929-940.	0.7	14
64	On combustion enhancement mechanisms in the case of electrical-discharge-excited oxygen molecules. Technical Physics, 2007, 52, 1281-1290.	0.7	14
65	On the influence of singlet oxygen molecules on the NOx formation in methane-air laminar flame. Proceedings of the Combustion Institute, 2013, 34, 3277-3285.	3.9	14
66	Theoretical study of partial oxidation of methane by non-equilibrium oxygen plasma to produce hydrogen rich syngas. International Journal of Hydrogen Energy, 2015, 40, 9872-9884.	7.1	14
67	Enhancement of hydrogen sulfide oxidation via excitation of oxygen molecules to the singlet delta state. Combustion and Flame, 2016, 170, 124-134.	5.2	14
68	Modeling Study of the Possibility of HCCI Combustion Improvement via Photochemical Activation of Oxygen Molecules. Energy & Fuels, 2014, 28, 2170-2178.	5.1	13
69	Theoretical Study of the Reactions of Methane and Ethane with Electronically Excited N₂(A³Î£_u⁺). Journal of Physical Chemistry A, 2016, 120, 4349-4359.	2.5	13
70	An improved model of homogeneous nucleation for high supersaturation conditions: aluminum vapor. Physical Chemistry Chemical Physics, 2017, 19, 523-538.	2.8	13
71	Numerical Study of Formation of a Detonation Wave in a Supersonic Flow over a Wedge by an H2-O2 Mixture with Nonequilibrium Excitation of Molecular Vibrations of Reagents. Combustion, Explosion and Shock Waves, 2006, 42, 68-75.	0.8	12
72	Intensification of syngas ignition through the excitation of CO molecule vibrations: a numerical study. Journal Physics D: Applied Physics, 2010, 43, 245501.	2.8	12

#	Article	IF	Citations
73	Impact of Operating Regime on Aviation Engine Emissions: Modeling Study. Journal of Propulsion and Power, 2013, 29, 709-717.	2.2	12
74	Combustion improvement in HCCI engine operating on synthesis gas via addition of ozone or excited oxygen molecules to the charge: Modeling study. International Journal of Hydrogen Energy, 2017, 42, 10475-10484.	7.1	12
75	Formation Kinetics of Sulfur-Bearing Compounds in Combustion of Hydrocarbon Fuels in Air. Combustion, Explosion and Shock Waves, 2002, 38, 609-621.	0.8	11
76	Ionâ€“soot interaction: a possible mechanism of ion removal in aircraft plume. Journal of Environmental Monitoring, 2003, 5, 265-268.	2.1	11
77	Numerical study of the enhancement of combustion performance in a scramjet combustor due to injection of electric-discharge-activated oxygen molecules. Plasma Sources Science and Technology, 2013, 22, 065007.	3.1	11
78	High-efficiency parallel-plate wet scrubber (PPWS) for soluble gas removal. Separation and Purification Technology, 2015, 142, 189-195.	7.9	11
79	A modified model of mode approximation for nitrogen plasma based on the state-to-state approach. Plasma Sources Science and Technology, 2015, 24, 055008.	3.1	11
80	Theoretical study of physical and thermodynamic properties of AlnNm clusters*. European Physical Journal D, 2016, 70, 1.	1.3	11
81	Theoretical study of thermochemical properties of Al_{<i>n</i>}C_{<i>m</i>}clusters. Physica Scripta, 2016, 91, 013004.	2.5	11
82	Quantum chemical study of small Al n B m clusters: Structure and physical properties. Chemical Physics, 2017, 493, 61-76.	1.9	11
83	Kinetics of low-temperature initiation of H2/O2/H2O mixture combustion upon the excitation of molecular vibrations in H2O molecules by laser radiation. Technical Physics, 2004, 49, 76-82.	0.7	10
84	Aircraft-generated soot aerosols: Physicochemical properties and effects of emission into the atmosphere. Izvestiya - Atmospheric and Oceanic Physics, 2007, 43, 125-141.	0.9	10
85	Initiation of combustion of a hydrogen-air mixture with ozone impurity by UV laser radiation. Technical Physics, 2008, 53, 235-243.	0.7	10
86	Intensification of hydrogen-oxygen mixture combustion in subsonic flow due to excitation of O2 molecules to the a 1Î” g electronic state in electric discharge. Doklady Physics, 2009, 54, 67-71.	0.7	10
87	On mechanisms of formation of environmentally harmful compounds in homogeneous combustors. Combustion, Explosion and Shock Waves, 2013, 49, 520-535.	0.8	10
88	Kinetics of plasmachemical processes in the expanding flow of nitrogen plasma. Physica Scripta, 2013, 88, 058306.	2.5	10
89	Ignition of a combustible gas mixture by a high-current electric discharge in a closed volume. Plasma Physics Reports, 2009, 35, 471-483.	0.9	9
90	On a possibility to reduce the ignition threshold for combustible mixtures by selective excitation of molecular vibrations in initial reagents. Doklady Physics, 2000, 45, 5-10.	0.7	8

#	Article	IF	Citations
91	Numerical Analysis of Hydrogen Sulphide Conversion to Hydrogen during Its Pyrolysis and Partial Oxidation. Combustion, Explosion and Shock Waves, 2018, 54, 136-146.	0.8	8
92	A decrease in the ignition temperature of molecular systems during nonequilibrium vibrational excitation of reacting molecules. Kinetics and Catalysis, 2000, 41, 589-596.	1.0	7
93	Initiation of combustion of a methane-air mixture in a supersonic flow behind a shock wave during laser excitation of O2 molecules. Technical Physics, 2004, 49, 1116-1125.	0.7	7
94	Electric Charging of Soot Particles in Aircraft Engine Exhaust Plumes. Fluid Dynamics, 2004, 39, 384-392.	0.9	7
95	Mechanisms of the IR laser initiation of combustion in a supersonic H2/O3/O2 flow. Kinetics and Catalysis, 2006, 47, 333-340.	1.0	7
96	On coagulation mechanisms of charged nanoparticles produced by combustion of hydrocarbon and metallized fuels. Journal of Experimental and Theoretical Physics, 2009, 108, 326-339.	0.9	7
97	Analysis of the mechanisms of ignition and combustion of i-C8H18â€"H2 and n-C10H22â€"H2 fuel blends in air. Combustion, Explosion and Shock Waves, 2016, 52, 631-642.	0.8	7
98	Ignition and early stage combustion of H2â€"O2 mixture upon the photodissociation of O2 molecules by UV laser radiation: Experimental and numerical study. Combustion and Flame, 2019, 200, 32-43.	5.2	7
99	On mechanisms of intensifying combustion due to the simultaneous excitation of vibrational and electronic states of reacting molecules. Doklady Physics, 2005, 50, 252-257.	0.7	6
100	Quantum chemical study of the reactions of Al, AlO and AlOH with H2O2. Chemical Physics, 2016, 465-466, 9-16.	1.9	6
101	Vibrational energy transfer in H2O-H2 mixtures in shock waves. Fluid Dynamics, 1979, 14, 77-84.	0.9	5
102	Characteristics of the changes in the refractive index due to interaction of a radiation pulse with an inverted medium. Quantum Electronics, 1994, 24, 340-345.	1.0	5
103	Simulation of binary condensation of H2O/H2SO4 in plumes of jet engines using Eulerâ€™s method of fractions. High Temperature, 2000, 38, 77-86.	1.0	5
104	Kinetic mechanisms of initiating hydrogen-oxygen mixture combustion through the excitation of electronic degrees of freedom of molecular oxygen by laser radiation. Technical Physics, 2003, 48, 334-343.	0.7	5
105	Possibility of intensifying chain reactions in combustible mixtures by laser radiation exciting electronic states of O2 molecules. Doklady Physics, 2003, 48, 398-404.	0.7	5
106	Mechanism of the electric charging of soot particles upon the combustion of hydrocarbon fuels. Doklady Physics, 2004, 49, 441-446.	0.7	5
107	On the initiation of combustion of O2-O3 mixtures in the course of laser-induced asymmetrical ozone vibrations. Kinetics and Catalysis, 2004, 45, 847-853.	1.0	5
108	Initiation of combustion by laser-induced excitation of molecular vibrations of reactants. Journal of Russian Laser Research, 2006, 27, 533-551.	0.6	5

#	Article	IF	Citations
109	Initiation of diffusion combustion in a supersonic flow of H2â€“air mixture by electrical-discharge-excited oxygen molecules. Journal Physics D: Applied Physics, 2008, 41, 125210.	2.8	5
110	Laser-initiated ignition of hydrogen-air mixtures. Technical Physics, 2009, 54, 354-364.	0.7	5
111	Numerical study of combustion initiation in a supersonic flow of H2â€“air mixture by resonance laser radiation. Journal Physics D: Applied Physics, 2012, 45, 085401.	2.8	5
112	Application of reactor net models for the simulation of gas-turbine combustor emissions. International Journal of Sustainable Aviation, 2014, 1, 43.	0.2	5
113	Kinetic analysis of n-decaneâ€“hydrogen blend combustion in premixed and non-premixed supersonic flows. Combustion Theory and Modelling, 2016, 20, 99-130.	1.9	5
114	Numerical analysis of combustion of a hydrogenâ€“air mixture in an advanced ramjet combustor model during activation of O2 molecules by resonant laser radiation. Combustion, Explosion and Shock Waves, 2017, 53, 249-261.	0.8	5
115	Mechanisms of self-focusing in the interaction of laser radiation with a gaseous medium. Soviet Journal of Quantum Electronics, 1990, 20, 435-440.	0.1	4
116	Changes in the refractive index of a molecular gas in the field of resonant radiation when spectral lines overlap. Quantum Electronics, 1997, 27, 550-555.	1.0	4
117	Dynamics of Sulfate Aerosol Formation in Engine Jets. Fluid Dynamics, 2001, 36, 95-103.	0.9	4
118	Initiation of combustion and detonation by laser-induced electronical excitation of O 2 molecules to the a1Î”g and b1Î£g+states. , 2002, 4760, 609.		4
119	Thermally nonequilibrium processes occurring during the ignition of hydrocarbon-air mixtures behind shock waves. Russian Journal of Physical Chemistry B, 2008, 2, 722-731.	1.3	4
120	Kinetic processes in the plasma formed in combustion of hydrocarbon fuels. Journal of Engineering Physics and Thermophysics, 2011, 84, 100-124.	0.6	4
121	Carbon dioxide gasdynamic laser with optical feedback utilizing cascade transitions. Soviet Journal of Quantum Electronics, 1984, 14, 575-577.	0.1	3
122	Kinetics of combustion of H2+O2 mixture with participation of vibrationally excited molecules. Combustion, Explosion and Shock Waves, 1994, 30, 571-581.	0.8	3
123	Features of nonequilibrium processes of titrogen oxide formation behind strong shock waves in air. Fluid Dynamics, 1999, 34, 110-120.	0.9	3
124	The effect of nonequilibrium processes of H-, N- and S-containing species production in the internal flow of gasturbine engine on the formation of aerosols in aircraft plume. Journal of Aerosol Science, 2000, 31, 382-383.	3.8	3
125	Kinetic Mechanisms of Ignition of Isooctaneâ€“Air Mixtures. Combustion, Explosion and Shock Waves, 2004, 40, 36-56.	0.8	3
126	Numerical and experimental analysis of propaneâ€“hydrogen mixture ignition in air. Journal of Physics: Conference Series, 2016, 774, 012083.	0.4	3

#	Article	IF	Citations
127	Vibrational energy transfer in H2O-H2-O2 mixtures for gas cooled rapidly in supersonic nozzles. Fluid Dynamics, 1980, 15, 257-264.	0.9	2
128	Vibrationally nonequilibrium flow of a CO2-N2-O2-H2O mixture in a wedge nozzle. Journal of Applied Mechanics and Technical Physics, 1981, 21, 467-473.	0.5	2
129	Parameter formation behind the reflected wave in a shock tube with a nozzle. Fluid Dynamics, 1988, 22, 622-628.	0.9	2
130	Kinetics of processes in the middle atmosphere during the laser excitation of O2 molecules. Technical Physics, 1998, 43, 890-897.	0.7	2
131	Hydrophilicity of soot particles formed in the combustion chamber of a jet engine. Technical Physics Letters, 2000, 26, 829-831.	0.7	2
132	Features of the formation of charged and neutral nanoparticles in hydrocarbon-air flames. Doklady Physics, 2008, 53, 312-317.	0.7	2
133	Effect of weak flow perturbations on the gain of a gasdynamic laser. Soviet Journal of Quantum Electronics, 1979, 9, 539-542.	0.1	1
134	Experimental investigation of the flow of a vibrationally nonequilibrium gas in a profiled nozzle. Fluid Dynamics, 1980, 15, 172-176.	0.9	1
135	Theoretical investigation of the characteristics of an H2-HCl gasdynamic laser. Soviet Journal of Quantum Electronics, 1981, 11, 580-584.	0.1	1
136	Analysis of hydrogen halide lasers. Soviet Journal of Quantum Electronics, 1982, 12, 171-175.	0.1	1
137	Problem of obtaining a population inversion in vibrational levels of polyatomic dipole molecules behind a shock-wave front. Journal of Applied Mechanics and Technical Physics, 1982, 22, 640-645.	0.5	1
138	Question of determining the relaxation time in kinetic cooling of a moving gas. Journal of Applied Mechanics and Technical Physics, 1982, 23, 173-177.	0.5	1
139	Numerical investigation of the propagation of a pulse of radiation with ?=10.6 ?m through absorbing media. Journal of Applied Mechanics and Technical Physics, 1984, 25, 340-345.	0.5	1
140	The flow of a gas consisting of asymmetric dipole molecules in a field of resonance radiation. Fluid Dynamics, 1985, 20, 110-119.	0.9	1
141	Water vapor cooling when radiation of wavelength ?=2.8 ?m is absorbed. Fluid Dynamics, 1986, 21, 456-465.	0.9	1
142	Thermal effects of the absorption of CO2laser radiation by water vapor. Soviet Journal of Quantum Electronics, 1986, 16, 359-363.	0.1	1
143	Influence of radiation intensity and parameters of the medium on the depth of cooling and the change in the index of refraction during the adsorption of radiation with ?=9.2?10.6 ?m by water vapor. Journal of Applied Mechanics and Technical Physics, 1987, 27, 796-802.	0.5	1
144	Modeling the dynamics of refractive index variation associated with the absorption of radiation of wavelength ?=10.6 mm by water vapor. Fluid Dynamics, 1993, 27, 399-406.	0.9	1

#	Article	IF	Citations
145	Analysis of energy and spectral characteristics of a gasdynamic laser with N2-DCl mixing. Journal of Applied Mechanics and Technical Physics, 1994, 34, 455-460.	0.5	1
146	Effect of excitation of molecular vibrations on the dynamics of combustion of an H2+O2 mixture behind a detonation shockwave. Journal of Applied Mechanics and Technical Physics, 1995, 36, 818-825.	0.5	1
147	Numerical analysis of combustion kinetics for hydrogenâ€"air mixtures with NH3, CH4, and C2H6 additives behind shock waves. Combustion, Explosion and Shock Waves, 2000, 36, 310-317.	0.8	1
148	Mechanisms of nonstationary self-focusing during pulse IR laser radiation propagation in a gaseous medium. , 2000, , .		1
149	Initiation of Combustion in a Supersonic Hydrogen-Air Mixture Flow by CO2-Laser Radiation. Fluid Dynamics, 2005, 40, 305-314.	0.9	1
150	35S Tracer study of the effect of support nature on the dynamics of the active sites of CoMo and NiMo sulfide catalysts supported on Al 2O3 and activated carbon. Kinetics and Catalysis, 2005, 46, 77-87.	1.0	1
151	Numerical modeling of the formation of aerosol particles in jet engine plumes. Fluid Dynamics, 2007, 42, 33-43.	0.9	1
152	Initiation of a detonation wave by resonant laser radiation in a hydrogen-oxygen mixture flowing about a wedge. Technical Physics, 2007, 52, 39-46.	0.7	1
153	Numerical Study of the Influence of the Photochemical Activation of Oxygen Molecules on Homogeneous Charge Compression Ignition Performance. Energy & Fuels, 2017, 31, 8608-8618.	5.1	1
154	Resonance absorption of emission (10.6?m) in CO2-N2 mixtures behind a shock front. Journal of Applied Mechanics and Technical Physics, 1981, 21, 311-313.	0.5	0
155	Theoretical investigation of nonequilibrium flow of a H2O-H2-O2 mixture in a profiled nozzle. Fluid Dynamics, 1982, 17, 86-91.	0.9	0
156	Kinetic cooling of a moving gas. Fluid Dynamics, 1982, 17, 431-440.	0.9	0
157	Population inversion of vibrational levels in the case of kinetic cooling of a moving gas. Fluid Dynamics, 1983, 17, 768-772.	0.9	0
158	Propagation of a radiation pulse with wavelength ?=10.6 ?m in amplifying media. Journal of Applied Mechanics and Technical Physics, 1985, 26, 177-182.	0.5	0
159	Resonance radiation cooling of a diatomic molecule gas flux. Journal of Applied Mechanics and Technical Physics, 1985, 25, 655-663.	0.5	0
160	Modeling of flows of the products of combustion of hydrocarbon fuels in an impulsive setup of the explosive type. Combustion, Explosion and Shock Waves, 1985, 21, 680-687.	0.8	0
161	Effect of spectral line overlap on the pulse shape of the output of a CO2 laser. Journal of Applied Spectroscopy, 1986, 45, 774-778.	0.7	0
162	A method of accounting for the scattered radiation in atomic fluorescence spectrometry. Journal of Applied Spectroscopy, 1986, 44, 130-134.	0.7	0

#	Article	IF	Citations
163	Effect of the transonic section of the nozzle on the freezing of vibrational energy in a H2-HCl flow. Fluid Dynamics, 1988, 22, 773-778.	0.9	0
164	Molecular-gas cooling in a resonant radiation field with line overlap. Journal of Applied Mechanics and Technical Physics, 1988, 29, 163-168.	0.5	0
165	Numerical investigation of the process of shock reflection from a wall with a slot hole. Journal of Applied Mechanics and Technical Physics, 1988, 28, 903-909.	0.5	0
166	Discussion of the effect of the intensity of radiation and the parameters of a medium on the change in the refractive index accompanying the absorption of HF-laser radiation by water vapor. Journal of Applied Mechanics and Technical Physics, 1990, 30, 516-521.	0.5	0
167	Propagation of disturbances in supersonic vibrationally nonequilibrium gas flows. Fluid Dynamics, 1990, 25, 272-277.	0.9	0
168	Study of Mechanisms of Electromagnetic-Fields Therapeutic Effect Elements of Microwave Medical Apparatus. , 1990, , .		0
169	Some self-focusing mechanisms for absorption on rotational transitions. Journal of Applied Mechanics and Technical Physics, 1991, 32, 297-305.	0.5	0
170	Formation of a nonequilibrium energy distribution over vibrational degrees of freedom of the H2O molecule as water vapor expands in a supersonic nozzle. Journal of Applied Mechanics and Technical Physics, 1992, 33, 506-514.	0.5	0
171	Effect of vibrational relaxation on the parameters of molecular gases behind reflected shocks. Fluid Dynamics, 1992, 26, 904-908.	0.9	0
172	Radiation absorption by the 020(550)â†'001(633) transition of H2O behind shock waves. Journal of Quantitative Spectroscopy and Radiative Transfer, 1992, 48, 25-31.	2.3	0
173	Modeling of diffusion and heat conduction effects on the variation of hydrodynamic parameters during excitation of molecular oscillations by resonance radiation. Journal of Applied Mechanics and Technical Physics, 1993, 34, 1-9.	0.5	0
174	Influence of the macrotransport processes in gases on the change in the hydrodynamic parameters in the presence of a resonance radiation pulse. Fluid Dynamics, 1993, 27, 544-550.	0.9	0
175	Modeling of the dynamics of the change in the index of refraction during resonance interaction of radiation with vibrational-rotational transitions. Journal of Applied Mechanics and Technical Physics, 1994, 35, 21-28.	0.5	0
176	Energetic and spectral characteristics of gas-dynamic and electro-discharge flow lasers on N 2 -DCL mixture. , 1998, , .		0
177	Mechanisms of nonstationary change of refractive index under propagation of pulsed IR laser radiation in the absorbing and amplifying gaseous medium. , 1998, , .		0
178	Gas dynamic lasers of a short and medium IR range on halogen molecules: analysis and perspectives. , 2000, 3889, 762.		0
179	Hydrophilicity and reactivity of aircraft exhaust soot. Journal of Aerosol Science, 2000, 31, 1038-1039.	3.8	0
180	Creation of high-energy far-infrared H 2 O gasdynamic laser: experimental and theoretical studies. , 2002, 4760, 706.		0

#	Article	IF	Citations
181	Control of combustion and detonation by means of resonance laser radiation: analysis and potentialities. , 2003, , .		0
182	KINETICS OF CHARGED NANOPARTICLES FORMATION DURING COMBUSTION OF HYDROCARBON/AIR MIXTURES. Journal of Aerosol Science, 2004, 35, S821-S822.	3.8	0
183	<title>Laser-induced excitation of target molecules as an efficient approach to control the combustion and technological chemical processes</title>. , 2006, 6053, 245.		0
184	Control of combustion by electrical-discharge-excited oxygen molecules. , 2008, , .		0
185	Kinetic processes in dusty plasmas produced by shock wave. , 2008, , .		0
186	Invited papers from the International Symposium on Nonequilibrium Processes, Plasma, Combustion and Atmospheric Phenomena. Physica Scripta, 2013, 88, 058303.	2.5	0
187	10.1007/s11454-008-2014-1. , 2010, 53, 235.		0
188	Numerical modeling of the formation of aerosol particles in jet engine plumes. Fluid Dynamics, 2007, 42, 33-43.	0.9	0