Vladimir Arutyunov

List of Publications by Citations

120 papers	962 citations	16 h-index	25 g-index
126 ext. papers	1,146 ext. citations	2.8 avg, IF	4.67 L-index

#	Paper	IF	Citations
120	Energy resources of the 21st century: problems and forecasts. Can renewable energy sources replace fossil fuels?. *Russian Chemical Reviews*, **2017**, 86, 777-804	6.8	57
119	Oxidative conversion of methane. *Russian Chemical Reviews*, **2005**, 74, 1111-1137	6.8	51
118	Oxidations by the system hydrogen peroxide–[Mn2L2O3][PF6]2 (L = 1,4,7-trimethyl-1,4,7-triazacyclononane)–oxalic acid. Part 6. Oxidation of methane and other alkanes and olefins in water. *Journal of Organometallic Chemistry*, **2005**, 690, 4498-4504	2.3	50
117	Direct high-pressure gas-phase oxidation of natural gas to methanol and other oxygenates. *Russian Chemical Reviews*, **1996**, 65, 197-224	6.8	40
116	The mechanism of O(3P) atom reaction with ethylene and other simple olefins. *International Journal of Chemical Kinetics*, **1992**, 24, 545-561	1.4	37
115	New concept for small-scale GTL. *Chemical Engineering Journal*, **2015**, 282, 206-212	14.7	33
114	Low-scale direct methane to methanol – Modern status and future prospects. *Catalysis Today*, **2013**, 215, 243-250	5.3	30
113	Gas-phase oxypyrolysis of light alkanes. *Russian Chemical Reviews*, **2012**, 81, 790-822	6.8	27
112	Syngas and hydrogen production from biogas in volumetric (3D) matrix reformers. *International Journal of Hydrogen Energy*, **2012**, 37, 14040-14046	6.7	24
111	Syngas and hydrogen production in a volumetric radiant burner. *Chemical Engineering Journal*, **2011**, 176-177, 291-294	14.7	23
110	3D Matrix Burners: A Method for Small-Scale Syngas Production. *Industrial & Engineering Chemistry Research*, **2014**, 53, 1754-1759	3.9	22
109	Oxidative conversion of light alkanes diluted by nitrogen, helium or methane. *Chemical Engineering Journal*, **2014**, 238, 9-16	14.7	20
108	The interplay of catalytic and gas-phase stages at oxidative conversion of methane: A review. *Journal of Molecular Catalysis A*, **2017**, 426, 326-342		20
107	The role of initiation in oxidative coupling of methane. *Applied Catalysis A: General*, **1995**, 127, 51-63	5.1	17
106	Modern State of Direct High Pressure Partial Oxidation of Natural Gas to Methanol. *Industrial & Engineering Chemistry Research*, **1995**, 34, 4238-4243	3.9	17
105	Kinetic Models of C1–C4 Alkane Oxidation as Applied to Processing of Hydrocarbon Gases: Principles, Approaches and Developments. *Advances in Chemical Engineering*, **2007**, 32, 167-258	0.6	16
104	Matrix conversion of natural gas to syngas: The main parameters of the process and possible applications. *Chemical Engineering Journal*, **2019**, 377, 120883	14.7	16

103	Pyrolysis of methane in the temperature range 1000–1700 K. *Russian Chemical Reviews*, **1991**, 60, 1384-1397	3.8	15
102	A Generator of synthesis gas and hydrogen based on a radiation burner. *Theoretical Foundations of Chemical Engineering*, **2010**, 44, 20-29	0.9	14
101	Partial Alkane Oxidation Kinetics at High Pressures: Methane Oxidation in Stainless Steel and Quartz Reactors. *Theoretical Foundations of Chemical Engineering*, **2002**, 36, 472-476	0.9	14
100	Burning velocity of methane-hydrogen mixtures at elevated pressures and temperatures. *Russian Journal of Physical Chemistry B*, **2013**, 7, 290-301	1.2	13
99	Production of gas mixtures with regulated ratios between ethylene and carbon monoxide by the gas-phase oxidative cracking of light alkanes. *Kinetics and Catalysis*, **2014**, 55, 556-565	1.5	13
98	Relative Conversion of Lower Alkanes in Their Simultaneous Partial Gas-Phase Oxidation. *Theoretical Foundations of Chemical Engineering*, **2005**, 39, 487-492	0.9	13
97	Kinetic features and industrial prospects of the selective oxidative cracking of light alkanes. *Russian Chemical Reviews*, **2017**, 86, 47-74	6.8	12
96	Slurry reactor system with inertial separation for Fischer-Tropsch synthesis and other three-phase hydrogenation processes. *Canadian Journal of Chemical Engineering*, **2016**, 94, 518-523	2.3	12
95	Prospects of Conversion of Hydrocarbon Gases to Liquid Products Based on Nitrogen-Rich Synthesis Gas (Review). *Petroleum Chemistry*, **2019**, 59, 370-379	1.1	12
94	Experimental studies of natural gas to synthesis gas converters based on permeable cavity matrices. *Russian Journal of Applied Chemistry*, **2016**, 89, 1816-1824	0.8	12
93	Effects of the gas medium and heterogeneous factors on the gas-phase oxidative cracking of ethane. *Kinetics and Catalysis*, **2013**, 54, 394-399	1.5	11
92	Kinetics of Partial Oxidation of Alkanes at High Pressures: Oxidation of Ethane and Methane–Ethane Mixtures. *Theoretical Foundations of Chemical Engineering*, **2004**, 38, 311-315	0.9	11
91	Some features of methane oxidation at high pressures. *Catalysis Today*, **1992**, 13, 613-616	5.3	11
90	Kinetics of hydrogen oxidation near the lower explosion limit. *International Journal of Chemical Kinetics*, **1984**, 16, 817-834	1.4	11
89	The role of homogeneous steam reforming of acetylene in the partial oxidation of methane to syngas in matrix type converters. *Chemical Engineering Science*, **2019**, 207, 744-751	4.4	10
88	Effect of the concentrations of methane and ethylene on the composition of the products of their cooxidation. *Russian Journal of Physical Chemistry B*, **2015**, 9, 218-222	1.2	10
87	Adjustment of the fuel characteristics of wet and associated petroleum gases by partial oxidation of C2+ hydrocarbons. *Petroleum Chemistry*, **2017**, 57, 236-243	1.1	9
86	Study of cool-Dame phenomena during self-ignition of methane-oxygen mixtures. *Russian Chemical Bulletin*, **1996**, 45, 2316-2320	1.7	9

85	Role of pressure in homogeneous and/or catalytic oxidation of methane. *Catalysis Today*, **1994**, 21, 527-538	5.3	9
84	Production of olefins by the conjugated oxidation of light hydrocarbons. *Chemical Engineering Journal*, **2017**, 329, 231-237	14.7	8
83	Steam reforming of methane mixtures with ethylene over an industrial nickel catalyst. *Petroleum Chemistry*, **2008**, 48, 22-27	1.1	8
82	Selective oxycracking of associated petroleum gas into energy fuel in the light of new data on self-ignition delays of methane-alkane compositions. *Chemical Engineering Journal*, **2020**, 381, 122706	14.7	8
81	Utilization of renewable sources of biogas for small-scale production of liquid fuels. *Catalysis Today* , **2021**, 379, 23-27	5.3	8
80	Low-temperature autoignition of binary mixtures of methane with C3–5 alkanes. *Combustion, Explosion and Shock Waves*, **2016**, 52, 386-393	1	7
79	Gas-phase oxidative cracking of ethane in a nitrogen atmosphere. *Kinetics and Catalysis*, **2013**, 54, 383-393	1.5	7
78	New prospects of low-scale gas chemistry. *Journal of Physics: Conference Series*, **2011**, 291, 012001	0.3	7
77	The role of pressure in partial oxidation of methane. *Russian Chemical Bulletin*, **2002**, 51, 2170-2175	1.7	7
76	Dependence of the kinetics of gas phase methane oxidation at high pressures on the concentration of oxygen and on temperature. *Russian Chemical Bulletin*, **1996**, 45, 45-48	1.7	7
75	Partial gas-phase oxidation of hydrocarbon gases with an adjustable methanol-to-carbon monoxide ratio in the oxidation products. *Russian Journal of Physical Chemistry B*, **2014**, 8, 148-151	1.2	6
74	Direct Methane To Methanol: Foundations and Prospects of the Process **2014**, vii-ix		6
73	Mechanism of the gas-phase oxidation of carbon disulfide at elevated temperatures (the C-S-O system). *Bulletin of the Russian Academy of Sciences Division of Chemical Science*, **1992**, 41, 629-637		6
72	New Potentialities for Utilization of Associated Petroleum Gases in Power Generation and Chemicals Production. *Eurasian Chemico-Technological Journal*, **2017**, 19, 265	0.8	6
71	Effect of pressure on the oxidative cracking of C2–4 alkanes. *Russian Chemical Bulletin*, **2016**, 65, 2405-2410	1.1	6
70	Activation of the radical-promoted conversion of light hydrocarbons by the products of a rich methane flame. *Russian Journal of Physical Chemistry B*, **2016**, 10, 907-911	1.2	5
69	Effect of oxygen concentration on the oxidative conversion of propane. *Russian Journal of Physical Chemistry B*, **2015**, 9, 231-236	1.2	5
68	Utilization of associated petroleum gas via small-scale power generation. *Russian Journal of General Chemistry*, **2011**, 81, 2557-2563	0.7	5

67	Oxidative conversion of hexane as a model of selective conversion of heavy components of hydrocarbon gases. *Russian Chemical Bulletin*, **2010**, 59, 1528-1532	1.7	5
66	Mechanism of gas-phase oxidation of hydrogen sulfide at high temperatures. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1990**, 39, 1775-1784		5
65	Reactions of hydrogen and oxygen atoms with phosphine: The role of PO radicals in the burning of phosphine. *Combustion, Explosion and Shock Waves*, **1982**, 18, 451-455	1	5
64	Rate constants of the reaction of fluorine atoms with carbon monoxide. *Reaction Kinetics and Catalysis Letters*, **1975**, 3, 205-207		5
63	New horizons of small-tonnage gas chemistry. *Herald of the Russian Academy of Sciences*, **2016**, 86, 329-336	0.7	5
62	Oxidative conversion of wet and associated gases to fuels for power plants. *Journal of Natural Gas Science and Engineering*, **2016**, 31, 9-14	4.6	4
61	Experimental investigation and kinetic modeling of the negative temperature coefficient of the reaction rate in rich propane–oxygen mixtures. *Russian Chemical Bulletin*, **1997**, 46, 2006-2010	1.7	4
60	Partial oxidation of hydrocarbon gases as a base for new technological processes in gas and power production. *Studies in Surface Science and Catalysis*, **2007**, 269-274	1.8	4
59	On the sources of hydrogen for the global replacement of hydrocarbons		4
58	Effect of Hydrogen, Carbon Monoxide, Synthesis Gas, and Steam Additives on the Characteristics of Matrix Conversion of Rich Methane–Oxygen Mixtures. *Petroleum Chemistry*, **2020**, 60, 818-826	1.1	4
57	The Concept of Sustainable Development and Real Challenges of Civilization. *Herald of the Russian Academy of Sciences*, **2021**, 91, 102-110	0.7	4
56	Impact of post-flame processes on the hydrogen yield in partial oxidation of methane in the matrix reformer. *Chemical Engineering Research and Design*, **2021**, 175, 250-258	5.5	4
55	A Comprehensive Review on the Prospects of Using Hydrogen–Methane Blends: Challenges and Opportunities. *Energies*, **2022**, 15, 2265	3.1	4
54	Oxidative pyrolysis of propane with an admixture of ethylene. *Petroleum Chemistry*, **2016**, 56, 832-835	1.1	3
53	Experimental approvement of the filterless hydroprocess technology using slurry reactor system with inertial separation. *Separation and Purification Technology*, **2017**, 186, 342-351	8.3	3
52	Use of Matrices Made of Permeable Wire Material in Infrared Burners. *Russian Journal of Physical Chemistry B*, **2017**, 11, 937-941	1.2	3
51	Oxidative conversion of hydrocarbon gases in the surface combustion mode. *Russian Chemical Bulletin*, **2013**, 62, 1504-1509	1.7	3
50	The kinetics of gas-phase processes in systems containing carbon and sulphur. *Russian Chemical Reviews*, **1992**, 61, 1140-1155	6.8	3

49	ANALYSIS OF LITERATURE MODELS OF OXIDATION OF METHANE AT MODERATE TEMPERATURES. *Gorenie I Vzryv (Moskva) â Combustion and Explosion*, **2018**, 11, 19-26	0.5	3
48	Comparison of Various Options for Designing the Direct Oxidation of Methane to Methanol. *Russian Journal of Applied Chemistry*, **2021**, 94, 509-517	0.8	3
47	Non-Catalytic Steam Reforming of C1 C4 Hydrocarbons. *Petroleum Chemistry*, **2021**, 61, 762-772	1.1	3
46	Perspective tendencies in development of small scale processing of gas resources. *Pure and Applied Chemistry*, **2017**, 89, 1033-1047	2.1	2
45	Experimental Determination of Self-Ignition Delay of Mixtures of Methane with Light Alkanes. *Combustion, Explosion and Shock Waves*, **2019**, 55, 526-533	1	2
44	Kinetic features and technological perspectives of the partial oxidation of light alkanes. *Russian Journal of Physical Chemistry B*, **2012**, 6, 486-497	1.2	2
43	Oxidation of methane ethane mixtures into alcohols under enhanced pressures. *Catalysis Today*, **1998**, 42, 241-245	5.3	2
42	Kinetic limit of the ethane and ethylene yield in the gas phase condensation of methane. *Russian Chemical Bulletin*, **1995**, 44, 372-373	1.7	2
41	Modeling the self-ignition of methane Air mixtures in internal combustion engines. *Combustion, Explosion and Shock Waves*, **1994**, 30, 140-146	1	2
40	Reactions leading to the formation of atomic phosphorus. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1982**, 31, 15-18		2
39	Rate constants for the interaction of trifluoromethyl radicals with oxygen and fluorine. *Reaction Kinetics and Catalysis Letters*, **1977**, 6, 161-167		2
38	Oxidative Cracking of Oil Refinery Gases. *Russian Journal of Applied Chemistry*, **2019**, 92, 1745-1750	0.8	2
37	Technological prospects of noncatalytic partial oxidation of light alkanes. *Reviews in Chemical Engineering*, **2021**, 37, 99-123	5	2
36	Analysis of the Fundamental Aspects of Oxidation of Rich Methane Mixtures in Matrix-Type Converters. *Russian Journal of Applied Chemistry*, **2018**, 91, 1500-1512	0.8	2
35	Production of Ethylene, CO, and Hydrogen by Oxidative Cracking of Oil Refinery Gas Components. *Russian Journal of Applied Chemistry*, **2018**, 91, 2065-2075	0.8	2
34	Hydrogen Energy: Significance, Sources, Problems, and Prospects (A Review). *Petroleum Chemistry*,	1.1	2
33	Propylene Synthesis by Copyrolysis of Propane and Ethylene. *Petroleum Chemistry*, **2020**, 60, 316-320	1.1	1
32	Development of Technological Process of Matrix Conversion of Natural and Associated Petroleum Gases into Syngas with Low Content of Nitrogen **2018**, 721-730		1

31	Direct Methane to Methanol: Historical and Kinetics Aspects **2018**, 129-172		1
30	Direct Methane to Methanol: Reaction Products and Effect of Gas Composition **2018**, 173-209		1
29	Thermokinetic oscillations in the partial oxidation of methane. *Russian Journal of Physical Chemistry B*, **2017**, 11, 403-410	1.2	1
28	Hydrogen generation for feeding high-temperature fuel cells. *Russian Journal of Physical Chemistry B*, **2017**, 11, 429-435	1.2	1
27	Certain trends in power engineering at the beginning of XXI century. *Russian Journal of General Chemistry*, **2009**, 79, 2461-2468	0.7	1
26	Methanol Synthesis by Direct Oxidation of Natural Gas at Thermal Power Plants. *Theoretical Foundations of Chemical Engineering*, **2002**, 36, 382-388	0.9	1
25	Oxidation of Natural Gas to Methanol in a Cyclic Mode. *Theoretical Foundations of Chemical Engineering*, **2001**, 35, 209-211	0.9	1
24	Concerning the dependence of the selectivity of the formation of ethane and ethylene on the degree of methane conversion during its oxidative coupling. *Russian Chemical Bulletin*, **1995**, 44, 551-552	1.7	1
23	Heterogeneous decay of fluorine atoms. *Reaction Kinetics and Catalysis Letters*, **1977**, 6, 169-174		1
22	On the Mechanism of Methane Conversion in the Non□talytic Processes of Its Thermal Pyrolysis and Steam and Carbon Dioxide Reforming. *Petroleum Chemistry*, **2021**, 61, 1228	1.1	1
21	Alternative energy carriers from hydrocarbon gases. *□nergeti□eska□Politika*, **2021**, 56-69	0.2	1
20	Russian accent in the global energy transition. *□nergeti□eska□Politika*, **2021**, 30-41	0.2	1
19	Physical Methods for Studying Chemical Reactions: New Non-Catalytic Methods for Processing Hydrocarbon Gases. *Russian Journal of Physical Chemistry B*, **2021**, 15, 498-505	1.2	1
18	Effect of Hydrogen Addition on Oxidative Cracking of Ethane. *Russian Journal of Applied Chemistry*, **2018**, 91, 1767-1772	0.8	1
17	Processing of natural and casing-head gases by the gas-phase oxidation. *Kataliz V Promyshlennosti*, **2021**, 21, 227-237	0.3	1
16	Partial Oxidation of Ethane in the Temperature Range 773□1023 K. *Kinetics and Catalysis*, **2021**, 62, 703-711	1.5	1
15	The Fuel of Our Future: Hydrogen or Methane? **2022**, 1, 96-106		1
14	Production of Hydrogen from Propane□Butane Mixture in a Combined Process of Matrix and Steam Conversion. *Russian Journal of Applied Chemistry*, **2021**, 94, 927-933	0.8	0

13	Computer modeling of self-ignition delays of methane-alkane mixtures. *Journal of Physics: Conference Series*, **2018**, 1141, 012153	0.3	0
12	Gas-Phase Oxidation of Natural and Associated Gases. *Catalysis in Industry*, **2022**, 14, 1-10	0.8	0
11	Direct Methane to Methanol: Promising Technologies Based on the DMTM Process **2018**, 211-238		
10	Effect of methanol, ethanol, and formaldehyde addition on the steam conversion of methane in the presence of nickel catalysts of various porous structure. *Petroleum Chemistry*, **2006**, 46, 149-158	1.1	
9	Quantitative description of chain explosion by a linear approximation of the theory of branched chain processes. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1987**, 36, 1954-1957		
8	Induction periods of the ignition of a fulminating mixture in the kinetic region of chain breaking. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1984**, 33, 2443-2447		
7	Value of first ignition limit in oxidation of hydrogen. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1983**, 32, 590-592		
6	Calculation of the combustion of a detonating mixture near the first ignition limit. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1983**, 32, 1319-1320		
5	Static method for determining the heterogeneous decay rate of atoms over a wide concentration range and its application to the oxidation of hydrogen. *Bulletin of the Academy of Sciences of the USSR Division of Chemical Science*, **1983**, 32, 696-701		
4	Steam reforming of methane mixtures with ethylene over an industrial nickel catalyst **2010**, 48, 22		
3	Oxidative Cracking of Propane in the Presence of Hydrogen. *Russian Journal of Applied Chemistry*, **2021**, 94, 787-792	0.8	
2	Experimental study and macrokinetic simulation of the partial gas-phase oxidation of propane. *Russian Journal of Physical Chemistry B*, **2016**, 10, 595-601	1.2	
1	Effect of Hydrogen and Carbon Monoxide Additions on Partial Oxidation of Methane at Elevated Pressures. *Russian Journal of Applied Chemistry*, **2019**, 92, 1726-1733	0.8	