

Vladimir Arutyunov

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	A Comprehensive Review on the Prospects of Using Hydrogen-Methane Blends: Challenges and Opportunities. <i>Energies</i> , 2022 , 15, 2265	3.1	4
119	Gas-Phase Oxidation of Natural and Associated Gases. <i>Catalysis in Industry</i> , 2022 , 14, 1-10	0.8	0
118	The Fuel of Our Future: Hydrogen or Methane? 2022 , 1, 96-106		1
117	On the Mechanism of Methane Conversion in the Non-Catalytic Processes of Its Thermal Pyrolysis and Steam and Carbon Dioxide Reforming. <i>Petroleum Chemistry</i> , 2021 , 61, 1228	1.1	1
116	Alternative energy carriers from hydrocarbon gases. <i>Energetika i Politika</i> , 2021 , 56-69	0.2	1
115	Russian accent in the global energy transition. <i>Energetika i Politika</i> , 2021 , 30-41	0.2	1
114	Production of Hydrogen from Propane-Butane Mixture in a Combined Process of Matrix and Steam Conversion. <i>Russian Journal of Applied Chemistry</i> , 2021 , 94, 927-933	0.8	0
113	The Concept of Sustainable Development and Real Challenges of Civilization. <i>Herald of the Russian Academy of Sciences</i> , 2021 , 91, 102-110	0.7	4
112	Comparison of Various Options for Designing the Direct Oxidation of Methane to Methanol. <i>Russian Journal of Applied Chemistry</i> , 2021 , 94, 509-517	0.8	3
111	Physical Methods for Studying Chemical Reactions: New Non-Catalytic Methods for Processing Hydrocarbon Gases. <i>Russian Journal of Physical Chemistry B</i> , 2021 , 15, 498-505	1.2	1
110	Oxidative Cracking of Propane in the Presence of Hydrogen. <i>Russian Journal of Applied Chemistry</i> , 2021 , 94, 787-792	0.8	
109	Non-Catalytic Steam Reforming of C ₁₀ -C ₁₄ Hydrocarbons. <i>Petroleum Chemistry</i> , 2021 , 61, 762-772	1.1	3
108	Utilization of renewable sources of biogas for small-scale production of liquid fuels. <i>Catalysis Today</i> , 2021 , 379, 23-27	5.3	8
107	Technological prospects of noncatalytic partial oxidation of light alkanes. <i>Reviews in Chemical Engineering</i> , 2021 , 37, 99-123	5	2
106	Processing of natural and casing-head gases by the gas-phase oxidation. <i>Kataliz V Promyshlennosti</i> , 2021 , 21, 227-237	0.3	1
105	Impact of post-flame processes on the hydrogen yield in partial oxidation of methane in the matrix reformer. <i>Chemical Engineering Research and Design</i> , 2021 , 175, 250-258	5.5	4
104	Partial Oxidation of Ethane in the Temperature Range 773-1023 K. <i>Kinetics and Catalysis</i> , 2021 , 62, 703-711	1.5	1

103	Propylene Synthesis by Copyrolysis of Propane and Ethylene. <i>Petroleum Chemistry</i> , 2020 , 60, 316-320	1.1	1
102	Effect of Hydrogen, Carbon Monoxide, Synthesis Gas, and Steam Additives on the Characteristics of Matrix Conversion of Rich Methane-Oxygen Mixtures. <i>Petroleum Chemistry</i> , 2020 , 60, 818-826	1.1	4
101	Selective oxycracking of associated petroleum gas into energy fuel in the light of new data on self-ignition delays of methane-alkane compositions. <i>Chemical Engineering Journal</i> , 2020 , 381, 122706	14.7	8
100	The role of homogeneous steam reforming of acetylene in the partial oxidation of methane to syngas in matrix type converters. <i>Chemical Engineering Science</i> , 2019 , 207, 744-751	4.4	10
99	Prospects of Conversion of Hydrocarbon Gases to Liquid Products Based on Nitrogen-Rich Synthesis Gas (Review). <i>Petroleum Chemistry</i> , 2019 , 59, 370-379	1.1	12
98	Experimental Determination of Self-Ignition Delay of Mixtures of Methane with Light Alkanes. <i>Combustion, Explosion and Shock Waves</i> , 2019 , 55, 526-533	1	2
97	Matrix conversion of natural gas to syngas: The main parameters of the process and possible applications. <i>Chemical Engineering Journal</i> , 2019 , 377, 120883	14.7	16
96	Effect of Hydrogen and Carbon Monoxide Additions on Partial Oxidation of Methane at Elevated Pressures. <i>Russian Journal of Applied Chemistry</i> , 2019 , 92, 1726-1733	0.8	
95	Oxidative Cracking of Oil Refinery Gases. <i>Russian Journal of Applied Chemistry</i> , 2019 , 92, 1745-1750	0.8	2
94	Development of Technological Process of Matrix Conversion of Natural and Associated Petroleum Gases into Syngas with Low Content of Nitrogen 2018 , 721-730		1
93	Direct Methane to Methanol: Historical and Kinetics Aspects 2018 , 129-172		1
92	Direct Methane to Methanol: Reaction Products and Effect of Gas Composition 2018 , 173-209		1
91	Direct Methane to Methanol: Promising Technologies Based on the DMTM Process 2018 , 211-238		
90	ANALYSIS OF LITERATURE MODELS OF OXIDATION OF METHANE AT MODERATE TEMPERATURES. <i>Gorenie i Vzryv (Moskva) ðŒ“Combustion and Explosion</i> , 2018 , 11, 19-26	0.5	3
89	Effect of Hydrogen Addition on Oxidative Cracking of Ethane. <i>Russian Journal of Applied Chemistry</i> , 2018 , 91, 1767-1772	0.8	1
88	Analysis of the Fundamental Aspects of Oxidation of Rich Methane Mixtures in Matrix-Type Converters. <i>Russian Journal of Applied Chemistry</i> , 2018 , 91, 1500-1512	0.8	2
87	Production of Ethylene, CO, and Hydrogen by Oxidative Cracking of Oil Refinery Gas Components. <i>Russian Journal of Applied Chemistry</i> , 2018 , 91, 2065-2075	0.8	2
86	Computer modeling of self-ignition delays of methane-alkane mixtures. <i>Journal of Physics: Conference Series</i> , 2018 , 1141, 012153	0.3	0

85	Kinetic features and industrial prospects of the selective oxidative cracking of light alkanes. <i>Russian Chemical Reviews</i> , 2017 , 86, 47-74	6.8	12
84	Production of olefins by the conjugated oxidation of light hydrocarbons. <i>Chemical Engineering Journal</i> , 2017 , 329, 231-237	14.7	8
83	Perspective tendencies in development of small scale processing of gas resources. <i>Pure and Applied Chemistry</i> , 2017 , 89, 1033-1047	2.1	2
82	Energy resources of the 21st century: problems and forecasts. Can renewable energy sources replace fossil fuels?. <i>Russian Chemical Reviews</i> , 2017 , 86, 777-804	6.8	57
81	Thermokinetic oscillations in the partial oxidation of methane. <i>Russian Journal of Physical Chemistry B</i> , 2017 , 11, 403-410	1.2	1
80	Experimental approvement of the filterless hydroprocess technology using slurry reactor system with inertial separation. <i>Separation and Purification Technology</i> , 2017 , 186, 342-351	8.3	3
79	Hydrogen generation for feeding high-temperature fuel cells. <i>Russian Journal of Physical Chemistry B</i> , 2017 , 11, 429-435	1.2	1
78	Adjustment of the fuel characteristics of wet and associated petroleum gases by partial oxidation of C ₂ + hydrocarbons. <i>Petroleum Chemistry</i> , 2017 , 57, 236-243	1.1	9
77	The interplay of catalytic and gas-phase stages at oxidative conversion of methane: A review. <i>Journal of Molecular Catalysis A</i> , 2017 , 426, 326-342		20
76	Use of Matrices Made of Permeable Wire Material in Infrared Burners. <i>Russian Journal of Physical Chemistry B</i> , 2017 , 11, 937-941	1.2	3
75	New Potentialities for Utilization of Associated Petroleum Gases in Power Generation and Chemicals Production. <i>Eurasian Chemico-Technological Journal</i> , 2017 , 19, 265	0.8	6
74	Low-temperature autoignition of binary mixtures of methane with C ₃ -C ₅ alkanes. <i>Combustion, Explosion and Shock Waves</i> , 2016 , 52, 386-393	1	7
73	Oxidative pyrolysis of propane with an admixture of ethylene. <i>Petroleum Chemistry</i> , 2016 , 56, 832-835	1.1	3
72	Activation of the radical-promoted conversion of light hydrocarbons by the products of a rich methane flame. <i>Russian Journal of Physical Chemistry B</i> , 2016 , 10, 907-911	1.2	5
71	Slurry reactor system with inertial separation for Fischer-Tropsch synthesis and other three-phase hydrogenation processes. <i>Canadian Journal of Chemical Engineering</i> , 2016 , 94, 518-523	2.3	12
70	Oxidative conversion of wet and associated gases to fuels for power plants. <i>Journal of Natural Gas Science and Engineering</i> , 2016 , 31, 9-14	4.6	4
69	Effect of pressure on the oxidative cracking of C ₂ -C ₄ alkanes. <i>Russian Chemical Bulletin</i> , 2016 , 65, 2405-2410	1.0	6
68	Experimental study and macrokinetic simulation of the partial gas-phase oxidation of propane. <i>Russian Journal of Physical Chemistry B</i> , 2016 , 10, 595-601	1.2	

67	New horizons of small-tonnage gas chemistry. <i>Herald of the Russian Academy of Sciences</i> , 2016 , 86, 329-336	5
66	Experimental studies of natural gas to synthesis gas converters based on permeable cavity matrices. <i>Russian Journal of Applied Chemistry</i> , 2016 , 89, 1816-1824	0.8 12
65	New concept for small-scale GTL. <i>Chemical Engineering Journal</i> , 2015 , 282, 206-212	14.7 33
64	Effect of the concentrations of methane and ethylene on the composition of the products of their cooxidation. <i>Russian Journal of Physical Chemistry B</i> , 2015 , 9, 218-222	1.2 10
63	Effect of oxygen concentration on the oxidative conversion of propane. <i>Russian Journal of Physical Chemistry B</i> , 2015 , 9, 231-236	1.2 5
62	Oxidative conversion of light alkanes diluted by nitrogen, helium or methane. <i>Chemical Engineering Journal</i> , 2014 , 238, 9-16	14.7 20
61	3D Matrix Burners: A Method for Small-Scale Syngas Production. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 1754-1759	3.9 22
60	Partial gas-phase oxidation of hydrocarbon gases with an adjustable methanol-to-carbon monoxide ratio in the oxidation products. <i>Russian Journal of Physical Chemistry B</i> , 2014 , 8, 148-151	1.2 6
59	Direct Methane To Methanol: Foundations and Prospects of the Process 2014 , vii-ix	6
58	Production of gas mixtures with regulated ratios between ethylene and carbon monoxide by the gas-phase oxidative cracking of light alkanes. <i>Kinetics and Catalysis</i> , 2014 , 55, 556-565	1.5 13
57	Gas-phase oxidative cracking of ethane in a nitrogen atmosphere. <i>Kinetics and Catalysis</i> , 2013 , 54, 383-393	7
56	Effects of the gas medium and heterogeneous factors on the gas-phase oxidative cracking of ethane. <i>Kinetics and Catalysis</i> , 2013 , 54, 394-399	1.5 11
55	Burning velocity of methane-hydrogen mixtures at elevated pressures and temperatures. <i>Russian Journal of Physical Chemistry B</i> , 2013 , 7, 290-301	1.2 13
54	Low-scale direct methane to methanol [Modern status and future prospects. <i>Catalysis Today</i> , 2013 , 215, 243-250	5.3 30
53	Oxidative conversion of hydrocarbon gases in the surface combustion mode. <i>Russian Chemical Bulletin</i> , 2013 , 62, 1504-1509	1.7 3
52	Kinetic features and technological perspectives of the partial oxidation of light alkanes. <i>Russian Journal of Physical Chemistry B</i> , 2012 , 6, 486-497	1.2 2
51	Syngas and hydrogen production from biogas in volumetric (3D) matrix reformers. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 14040-14046	6.7 24
50	Gas-phase oxyprolysis of light alkanes. <i>Russian Chemical Reviews</i> , 2012 , 81, 790-822	6.8 27

49	New prospects of low-scale gas chemistry. <i>Journal of Physics: Conference Series</i> , 2011 , 291, 012001	0.3	7
48	Syngas and hydrogen production in a volumetric radiant burner. <i>Chemical Engineering Journal</i> , 2011 , 176-177, 291-294	14.7	23
47	Utilization of associated petroleum gas via small-scale power generation. <i>Russian Journal of General Chemistry</i> , 2011 , 81, 2557-2563	0.7	5
46	A Generator of synthesis gas and hydrogen based on a radiation burner. <i>Theoretical Foundations of Chemical Engineering</i> , 2010 , 44, 20-29	0.9	14
45	Oxidative conversion of hexane as a model of selective conversion of heavy components of hydrocarbon gases. <i>Russian Chemical Bulletin</i> , 2010 , 59, 1528-1532	1.7	5
44	Steam reforming of methane mixtures with ethylene over an industrial nickel catalyst 2010 , 48, 22		
43	Certain trends in power engineering at the beginning of XXI century. <i>Russian Journal of General Chemistry</i> , 2009 , 79, 2461-2468	0.7	1
42	Steam reforming of methane mixtures with ethylene over an industrial nickel catalyst. <i>Petroleum Chemistry</i> , 2008 , 48, 22-27	1.1	8
41	Kinetic Models of C1-C4 Alkane Oxidation as Applied to Processing of Hydrocarbon Gases: Principles, Approaches and Developments. <i>Advances in Chemical Engineering</i> , 2007 , 32, 167-258	0.6	16
40	Partial oxidation of hydrocarbon gases as a base for new technological processes in gas and power production. <i>Studies in Surface Science and Catalysis</i> , 2007 , 269-274	1.8	4
39	Effect of methanol, ethanol, and formaldehyde addition on the steam conversion of methane in the presence of nickel catalysts of various porous structure. <i>Petroleum Chemistry</i> , 2006 , 46, 149-158	1.1	
38	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. <i>Journal of Organometallic Chemistry</i> , 2005 , 690, 4498-4504	2.3	50
37	Oxidative conversion of methane. <i>Russian Chemical Reviews</i> , 2005 , 74, 1111-1137	6.8	51
36	Relative Conversion of Lower Alkanes in Their Simultaneous Partial Gas-Phase Oxidation. <i>Theoretical Foundations of Chemical Engineering</i> , 2005 , 39, 487-492	0.9	13
35	Kinetics of Partial Oxidation of Alkanes at High Pressures: Oxidation of Ethane and Methane-Ethane Mixtures. <i>Theoretical Foundations of Chemical Engineering</i> , 2004 , 38, 311-315	0.9	11
34	Methanol Synthesis by Direct Oxidation of Natural Gas at Thermal Power Plants. <i>Theoretical Foundations of Chemical Engineering</i> , 2002 , 36, 382-388	0.9	1
33	Partial Alkane Oxidation Kinetics at High Pressures: Methane Oxidation in Stainless Steel and Quartz Reactors. <i>Theoretical Foundations of Chemical Engineering</i> , 2002 , 36, 472-476	0.9	14
32	The role of pressure in partial oxidation of methane. <i>Russian Chemical Bulletin</i> , 2002 , 51, 2170-2175	1.7	7

31	Oxidation of Natural Gas to Methanol in a Cyclic Mode. <i>Theoretical Foundations of Chemical Engineering</i> , 2001 , 35, 209-211	0.9	1
30	Oxidation of methane-ethane mixtures into alcohols under enhanced pressures. <i>Catalysis Today</i> , 1998 , 42, 241-245	5.3	2
29	Experimental investigation and kinetic modeling of the negative temperature coefficient of the reaction rate in rich propane-oxygen mixtures. <i>Russian Chemical Bulletin</i> , 1997 , 46, 2006-2010	1.7	4
28	Direct high-pressure gas-phase oxidation of natural gas to methanol and other oxygenates. <i>Russian Chemical Reviews</i> , 1996 , 65, 197-224	6.8	40
27	Dependence of the kinetics of gas phase methane oxidation at high pressures on the concentration of oxygen and on temperature. <i>Russian Chemical Bulletin</i> , 1996 , 45, 45-48	1.7	7
26	Study of cool-Dame phenomena during self-ignition of methane-oxygen mixtures. <i>Russian Chemical Bulletin</i> , 1996 , 45, 2316-2320	1.7	9
25	The role of initiation in oxidative coupling of methane. <i>Applied Catalysis A: General</i> , 1995 , 127, 51-63	5.1	17
24	Kinetic limit of the ethane and ethylene yield in the gas phase condensation of methane. <i>Russian Chemical Bulletin</i> , 1995 , 44, 372-373	1.7	2
23	Concerning the dependence of the selectivity of the formation of ethane and ethylene on the degree of methane conversion during its oxidative coupling. <i>Russian Chemical Bulletin</i> , 1995 , 44, 551-552	1.7	1
22	Modern State of Direct High Pressure Partial Oxidation of Natural Gas to Methanol. <i>Industrial & Engineering Chemistry Research</i> , 1995 , 34, 4238-4243	3.9	17
21	Modeling the self-ignition of methane-air mixtures in internal combustion engines. <i>Combustion, Explosion and Shock Waves</i> , 1994 , 30, 140-146	1	2
20	Role of pressure in homogeneous and/or catalytic oxidation of methane. <i>Catalysis Today</i> , 1994 , 21, 527-532	5.3	9
19	The kinetics of gas-phase processes in systems containing carbon and sulphur. <i>Russian Chemical Reviews</i> , 1992 , 61, 1140-1155	6.8	3
18	Some features of methane oxidation at high pressures. <i>Catalysis Today</i> , 1992 , 13, 613-616	5.3	11
17	Mechanism of the gas-phase oxidation of carbon disulfide at elevated temperatures (the C-S-O system). <i>Bulletin of the Russian Academy of Sciences Division of Chemical Science</i> , 1992 , 41, 629-637		6
16	The mechanism of O(3P) atom reaction with ethylene and other simple olefins. <i>International Journal of Chemical Kinetics</i> , 1992 , 24, 545-561	1.4	37
15	Pyrolysis of methane in the temperature range 1000-1700 K. <i>Russian Chemical Reviews</i> , 1991 , 60, 1384-1398	3.9	15
14	Mechanism of gas-phase oxidation of hydrogen sulfide at high temperatures. <i>Bulletin of the Academy of Sciences of the USSR Division of Chemical Science</i> , 1990 , 39, 1775-1784		5

- 13 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
- 12 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
- 11 Kinetics of hydrogen oxidation near the lower explosion limit. *International Journal of Chemical Kinetics*, **1984**, 16, 817-834 1.4 11
- 10 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
- 9 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
- 8 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
- 7 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
- 6 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
- 5 Rate constants for the interaction of trifluoromethyl radicals with oxygen and fluorine. *Reaction Kinetics and Catalysis Letters*, **1977**, 6, 161-167 2
- 4 Heterogeneous decay of fluorine atoms. *Reaction Kinetics and Catalysis Letters*, **1977**, 6, 169-174 1
- 3 Rate constants of the reaction of fluorine atoms with carbon monoxide. *Reaction Kinetics and Catalysis Letters*, **1975**, 3, 205-207 5
- 2 On the sources of hydrogen for the global replacement of hydrocarbons 4
- 1 Hydrogen Energy: Significance, Sources, Problems, and Prospects (A Review). *Petroleum Chemistry*, 1.1 2