Turanyi Tamas

List of Publications by Year
in descending order

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103 papers	5,033 citations	117453 34 h-index	95083 68 g-index
110 all docs	110 docs citations	110 times ranked	2750 citing authors

#	Article	IF	Citations
1	Sensitivity analysis of complex kinetic systems. Tools and applications. Journal of Mathematical Chemistry, 1990, 5, 203-248.	0.7	453
2	Principal component analysis of kinetic models. International Journal of Chemical Kinetics, 1985, 17, 55-81.	1.0	295
3	Development and testing of a comprehensive chemical mechanism for the oxidation of methane. International Journal of Chemical Kinetics, 2001, 33, 513-538.	1.0	236
4	Mechanistic details of the oscillatory Belousov-Zhabotinskii reaction. The Journal of Physical Chemistry, 1990, 94, 7162-7170.	2.9	184
5	Chapter 4 Mathematical tools for the construction, investigation and reduction of combustion mechanisms. Comprehensive Chemical Kinetics, 1997, , 293-437.	2.3	173
6	On the error of the quasi-steady-state approximation. The Journal of Physical Chemistry, 1993, 97, 163-172.	2.9	162
7	Optimization of a hydrogen combustion mechanism using both direct and indirect measurements. Proceedings of the Combustion Institute, 2015, 35, 589-596.	2.4	145
8	Comparison of the performance of several recent hydrogen combustion mechanisms. Combustion and Flame, 2014, 161, 2219-2234.	2.8	144
9	Reaction rate analysis of complex kinetic systems. International Journal of Chemical Kinetics, 1989, 21, 83-99.	1.0	134
10	Mechanism reduction for the oscillatory oxidation of hydrogen: Sensitivity and quasi-steady-state analyses. Combustion and Flame, 1992, 91, 107-130.	2.8	131
11	Reduction of very large reaction mechanisms using methods based on simulation error minimization. Combustion and Flame, 2009, 156, 417-428.	2.8	131
12	Analysis of Kinetic Reaction Mechanisms. , 2014, , .		128
13	Applications of sensitivity analysis to combustion chemistry. Reliability Engineering and System Safety, 1997, 57, 41-48.	5.1	125
14	Development of a Joint Hydrogen and Syngas Combustion Mechanism Based on an Optimization Approach. International Journal of Chemical Kinetics, 2016, 48, 407-422.	1.0	122
15	Determination of rate parameters based on both direct and indirect measurements. International Journal of Chemical Kinetics, 2012, 44, 284-302.	1.0	119
16	Parameterization of reaction mechanisms using orthonormal polynomials. Computers & Chemistry, 1994, 18, 45-54.	1.2	114
17	Comparison of the performance of several recent syngas combustion mechanisms. Combustion and Flame, 2015, 162, 1793-1812.	2.8	111
18	Effect of the uncertainty of kinetic and thermodynamic data on methane flame simulation results. Physical Chemistry Chemical Physics, 2002, 4, 2568-2578.	1.3	97

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19	Uncertainty analysis of updated hydrogen and carbon monoxide oxidation mechanisms. Proceedings of the Combustion Institute, 2005, 30, 1273-1281.	2.4	97
20	Uncertainty of Arrhenius parameters. International Journal of Chemical Kinetics, 2011, 43, 359-378.	1.0	96
21	Local and Global Uncertainty Analyses of a Methane Flame Model. Journal of Physical Chemistry A, 2005, 109, 9795-9807.	1.1	90
22	Local and global uncertainty analysis of complex chemical kinetic systems. Reliability Engineering and System Safety, 2006, 91, 1232-1240.	5.1	81
23	KINALâ€"a program package for kinetic analysis of reaction mechanisms. Computers & Chemistry, 1990, 14, 253-254.	1.2	79
24	Development of an Ethanol Combustion Mechanism Based on a Hierarchical Optimization Approach. International Journal of Chemical Kinetics, 2016, 48, 423-441.	1.0	77
25	Direct Kinetic Studies of the Reactions Br + CH3OH and CH2OH + HBr:Â The Heat of Formation of CH2OH. The Journal of Physical Chemistry, 1996, 100, 19864-19873.	2.9	69
26	Analysis and simplification of the GTF model of the Belousov-Zhabotinskii reaction. The Journal of Physical Chemistry, 1993, 97, 1931-1941.	2.9	63
27	Uncertainty quantification of a newly optimized methanol and formaldehyde combustion mechanism. Combustion and Flame, 2017, 186, 45-64.	2.8	61
28	An investigation of important gas-phase reactions of nitrogenous species from the simulation of experimental measurements in combustion systems. Combustion and Flame, 2001, 124, 573-589.	2.8	57
29	Uncertainty analysis of NO production during methane combustion. International Journal of Chemical Kinetics, 2008, 40, 754-768.	1.0	55
30	Uncertainty of the rate parameters of several important elementary reactions of the H2 and syngas combustion systems. Combustion and Flame, 2015, 162, 2059-2076.	2.8	55
31	Determination of the uncertainty domain of the Arrhenius parameters needed for the investigation of combustion kinetic models. Reliability Engineering and System Safety, 2012, 107, 29-34.	5.1	50
32	Gag-Pol Processing during HIV-1 Virion Maturation: A Systems Biology Approach. PLoS Computational Biology, 2013, 9, e1003103.	1.5	49
33	Principal component analysis for reducing the Edelson-Field-Noyes model of the Belousov-Zhabotinskii reaction. The Journal of Physical Chemistry, 1986, 90, 1664-1670.	2.9	45
34	Application of repro-modeling for the reduction of combustion mechanisms. Proceedings of the Combustion Institute, 1994, 25, 949-955.	0.3	40
35	Kinetic Analysis of Ethyl Iodide Pyrolysis Based on Shock Tube Measurements. International Journal of Chemical Kinetics, 2014, 46, 295-304.	1.0	39
36	Measurement and investigation of chamber radical sources in the European Photoreactor (EUPHORE). Journal of Atmospheric Chemistry, 2006, 55, 147-166.	1.4	38

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37	Determination of rate parameters based on NH2 concentration profiles measured in ammonia-doped methaneâ€“air flames. Fuel, 2018, 212, 679-683.	3.4	35
38	Time scale and dimension analysis of a budding yeast cell cycle model. BMC Bioinformatics, 2006, 7, 494.	1.2	34
39	Determination of rate parameters of key N/H/O elementary reactions based on H2/O2/NOx combustion experiments. Fuel, 2020, 264, 116720.	3.4	34
40	Simulation of the dispersion of nuclear contamination using an adaptive Eulerian grid model. Journal of Environmental Radioactivity, 2004, 75, 59-82.	0.9	32
41	Determination of rate parameters of cyclohexane and 1-hexene decomposition reactions. Energy, 2012, 43, 85-93.	4.5	32
42	Hungarian university students' misunderstandings in thermodynamics and chemical kinetics. Chemistry Education Research and Practice, 2013, 14, 105-116.	1.4	32
43	Rate sensitivity analysis of a model of the Briggs-Rauscher reaction. Reaction Kinetics and Catalysis Letters, 1991, 45, 235-241.	0.6	27
44	Similarity of Sensitivity Functions of Reaction Kinetic Models. Journal of Physical Chemistry A, 2003, 107, 2216-2238.	1.1	26
45	Non-methane hydrocarbon and aldehyde measurements in Budapest, Hungary. Atmospheric Environment Part A General Topics, 1991, 25, 2103-2110.	1.3	25
46	Kinetic Modeling of the Decomposition of Carbon Tetrachloride in Thermal Plasma. Plasma Chemistry and Plasma Processing, 2005, 25, 109-119.	1.1	25
47	Kinetic analysis of mechanisms of complex pyrolytic reactions. Journal of Analytical and Applied Pyrolysis, 2007, 79, 252-258.	2.6	24
48	The influence of thermal coupling and diffusion on the importance of reactions: The case study of hydrogenâ€“air combustion. Physical Chemistry Chemical Physics, 2003, 5, 3622-3631.	1.3	23
49	Comparison of Methane Combustion Mechanisms Using Shock Tube and Rapid Compression Machine Ignition Delay Time Measurements. Energy & Fuels, 2021, 35, 12329-12351.	2.5	23
50	DNS Study of the Optimal Chemical Markers for Heat Release in Syngas Flames. Flow, Turbulence and Combustion, 2017, 98, 1117-1132.	1.4	22
51	Investigation of ethane pyrolysis and oxidation at high pressures using global optimization based on shock tube data. Proceedings of the Combustion Institute, 2017, 36, 691-698.	2.4	22
52	Repro-Modelling Based Generation of Intrinsic Low-Dimensional Manifolds. Journal of Mathematical Chemistry, 2002, 31, 345-362.	0.7	21
53	Comparison of detailed reaction mechanisms for homogeneous ammonia combustion. Zeitschrift Fur Physikalische Chemie, 2020, 234, 1329-1357.	1.4	21
54	Direct measurements of the neopentyl peroxy-hydroperoxy radical isomerisation over the temperature range 660â€“750 K. Proceedings of the Combustion Institute, 1992, 24, 645-652.	0.3	19

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55	Modelling ozone fluxes over Hungary. Atmospheric Environment, 2004, 38, 6211-6222.	1.9	19
56	Rate constants of the reactions of OH radicals with cyclopropane and cyclobutane. International Journal of Chemical Kinetics, 1992, 24, 191-198.	1.0	18
57	Numerical investigation of the uncertainty of Arrhenius parameters. Journal of Mathematical Chemistry, 2011, 49, 1798-1809.	0.7	18
58	The importance of chemical mechanisms in sonochemical modelling. Ultrasonics Sonochemistry, 2022, 83, 105925.	3.8	18
59	Analysis of a budding yeast cell cycle model using the shapes of local sensitivity functions. International Journal of Chemical Kinetics, 2008, 40, 710-720.	1.0	17
60	Comparison of methane combustion mechanisms using laminar burning velocity measurements. Combustion and Flame, 2022, 238, 111867.	2.8	17
61	Determination of Adsorption and Desorption Parameters from Ignition Temperature Measurements in Catalytic Combustion Systems. Journal of Physical Chemistry B, 2003, 107, 2262-2274.	1.2	16
62	On the similarity of the sensitivity functions of methane combustion models. Combustion Theory and Modelling, 2005, 9, 721-738.	1.0	16
63	Formation of NO in High-Temperature N₂/O₂/H₂O Mixtures: Re-evaluation of Rate Coefficients. Energy & Fuels, 2018, 32, 10114-10120.	2.5	16
64	Modelling of Carbon Tetrachloride Decomposition in Oxidative RF Thermal Plasma. Plasma Chemistry and Plasma Processing, 2006, 26, 293-318.	1.1	15
65	Main sources of uncertainty in recent methanol/NOx combustion models. International Journal of Chemical Kinetics, 2021, 53, 884-900.	1.0	15
66	An Induction Parameter Model for Shock-Induced Hydrogen Combustion Simulations. Combustion and Flame, 1998, 113, 106-118.	2.8	14
67	Utilising artificial neural network and repro-modelling in turbulent combustion. , 0, , .		13
68	Investigation and Improvement of Reaction Mechanisms Using Sensitivity Analysis and Optimization. Green Energy and Technology, 2013, , 411-445.	0.4	13
69	Investigation of the effect of correlated uncertain rate parameters on a model of hydrogen combustion using a generalized HDMR method. Proceedings of the Combustion Institute, 2017, 36, 681-689.	2.4	12
70	Kinetics of reactions occurring in the unpolluted troposphere, II. Sensitivity analysis. Reaction Kinetics and Catalysis Letters, 1990, 41, 103-108.	0.6	11
71	Modelling photochemical air pollutant formation in Hungary using an adaptive grid technique. International Journal of Environment and Pollution, 2009, 36, 44.	0.2	11
72	Chemical reactions in the Titanâ€™s troposphere during lightning. Icarus, 2010, 207, 938-947.	1.1	11

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73	Generation of model reactions leading to limit cycle behavior. Reaction Kinetics and Catalysis Letters, 1982, 18, 65-71.	0.6	10
74	Investigation of the correlation of sensitivity vectors of hydrogen combustion models. International Journal of Chemical Kinetics, 2004, 36, 238-252.	1.0	10
75	Determination of the adsorption and desorption parameters for ethene and propene from measurements of the heterogeneous ignition temperature. Combustion and Flame, 2005, 142, 107-116.	2.8	10
76	Mechanically activated basic polyaluminium chloride as precursor for low-temperature Î±-Al2O3 formation. Scripta Materialia, 2007, 57, 619-621.	2.6	9
77	Sensitivity analysis in chemical kinetics. International Journal of Chemical Kinetics, 2008, 40, 685-686.	1.0	9
78	The kinetics of hydroxyl radical reactions with cyclopropane and cyclobutane. Journal of Chemical Sciences, 1991, 103, 499-503.	0.7	9
79	Mechanism Reduction to Skeletal Form and Species Lumping. Green Energy and Technology, 2013, , 447-466.	0.4	8
80	Low-temperature mechanochemicalâ€“thermal synthesis of Î±-Al2O3 nanocrystals. Materials Research Bulletin, 2011, 46, 2135-2140.	2.7	7
81	The method of quasi-stationary sensitivity analysis. Journal of Mathematical Chemistry, 1988, 2, 401-409.	0.7	6
82	Effect of the soil wetness state on the stomatal ozone fluxes over Hungary. International Journal of Environment and Pollution, 2009, 36, 180.	0.2	6
83	Reduction of Reaction Mechanisms. , 2014, , 183-312.		6
84	Investigation of the effect of correlated uncertain rate parameters via the calculation of global and local sensitivity indices. Journal of Mathematical Chemistry, 2018, 56, 864-889.	0.7	6
85	The Simulation of Photochemical Smog Episodes in Hungary and Central Europe Using Adaptive Gridding Models. Lecture Notes in Computer Science, 2001, , 67-76.	1.0	5
86	Relaxation of concentration perturbation in chemical kinetic systems. Reaction Kinetics and Catalysis Letters, 2009, 96, 269-278.	0.6	4
87	Sensitivity Analysis of Bacterial Chemotaxis Models. Procedia Computer Science, 2011, 7, 233-234.	1.2	4
88	Design of combustion experiments using differential entropy. Combustion Theory and Modelling, 2022, 26, 67-90.	1.0	4
89	Pyrolysis and oxidation of a light naphtha fuel and its surrogate blend. Combustion and Flame, 2022, 240, 111979.	2.8	4
90	Low temperature first ignition of n-butane. Combustion Theory and Modelling, 2019, 23, 1150-1168.	1.0	3

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91	Storage of Chemical Kinetic Information. Green Energy and Technology, 2013, , 485-512.	0.4	3
92	Several Exact Results on Deterministic Exotic Kinetics. Zeitschrift Fur Physikalische Chemie, 1983, 264O, 449-463.	1.4	2
93	CCl4 Decomposition in RF Thermal Plasma in Inert and Oxidative Environments. Plasma Chemistry and Plasma Processing, 2010, 30, 281-286.	1.1	2
94	Modelling Photochemical Air Pollution in Hungary Using an Adaptive Grid Model. , 2002, , 264-273.		2
95	Collisional energy transfer in the two-channel decomposition of 1,1,2,2-tetrafluorocyclobutane and 1-methyl-2,2,3,3-tetrafluorocyclobutane, I. Gas/gas collisons. Reaction Kinetics and Catalysis Letters, 1993, 51, 401-408.	0.6	1
96	Development of a grid enabled chemistry application. International Journal of Computational Science and Engineering, 2009, 4, 195.	0.4	1
97	Uncertainty analysis of varying temperature chemical kinetic systems. Procedia, Social and Behavioral Sciences, 2010, 2, 7757-7758.	0.5	1
98	Sensitivity and Uncertainty Analyses. , 2014, , 61-144.		1
99	Uncertainty Quantification of Chemical Kinetic Reaction Rate Coefficients. Mathematics in Industry, 2020, , 35-44.	0.1	1
100	Collisional energy transfer in the two-channel decomposition of 1,1,2,2-tetrafluorocyclobutane and 1-methyl-2,2,3,3-tetrafluorocyclobutane, II. Gas/wall collisions. Reaction Kinetics and Catalysis Letters, 1993, 51, 409-414.	0.6	0
101	Computer Codes for the Study of Complex Reaction Systems. , 2014, , 337-351.		0
102	Analysis of Complex Reaction Schemes. , 2016, , .		0
103	Cell Cycle Models, Sensitivity Analysis. , 2013, , 296-300.		0