Turanyi Tamas

List of Publications by Citations

106 papers	4,015 citations	33 h-index	62 g-index
110 ext. papers	4,477 ext. citations	3.3 avg, IF	5.47 L-index

#	Paper	IF	Citations
106	Sensitivity analysis of complex kinetic systems. Tools and applications. *Journal of Mathematical Chemistry*, **1990**, 5, 203-248	2.1	385
105	Principal component analysis of kinetic models. *International Journal of Chemical Kinetics*, **1985**, 17, 55-81	1.4	244
104	Development and testing of a comprehensive chemical mechanism for the oxidation of methane. *International Journal of Chemical Kinetics*, **2001**, 33, 513-538	1.4	195
103	Mechanistic details of the oscillatory Belousov-Zhabotinskii reaction. *The Journal of Physical Chemistry*, **1990**, 94, 7162-7170		159
102	On the error of the quasi-steady-state approximation. *The Journal of Physical Chemistry*, **1993**, 97, 163-172		144
101	Chapter 4 Mathematical tools for the construction, investigation and reduction of combustion mechanisms. *Comprehensive Chemical Kinetics*, **1997**, 293-437	0.7	142
100	Reaction rate analysis of complex kinetic systems. *International Journal of Chemical Kinetics*, **1989**, 21, 83-99	1.4	119
99	Mechanism reduction for the oscillatory oxidation of hydrogen: Sensitivity and quasi-steady-state analyses. *Combustion and Flame*, **1992**, 91, 107-130	5.3	114
98	Reduction of very large reaction mechanisms using methods based on simulation error minimization. *Combustion and Flame*, **2009**, 156, 417-428	5.3	112
97	Optimization of a hydrogen combustion mechanism using both direct and indirect measurements. *Proceedings of the Combustion Institute*, **2015**, 35, 589-596	5.9	101
96	Applications of sensitivity analysis to combustion chemistry. *Reliability Engineering and System Safety*, **1997**, 57, 41-48	6.3	98
95	Comparison of the performance of several recent hydrogen combustion mechanisms. *Combustion and Flame*, **2014**, 161, 2219-2234	5.3	96
94	Determination of rate parameters based on both direct and indirect measurements. *International Journal of Chemical Kinetics*, **2012**, 44, 284-302	1.4	96
93	Parameterization of reaction mechanisms using orthonormal polynomials. *Computers & Chemistry*, **1994**, 18, 45-54		96
92	Analysis of Kinetic Reaction Mechanisms **2014**,		91
91	Effect of the uncertainty of kinetic and thermodynamic data on methane flame simulation results. *Physical Chemistry Chemical Physics*, **2002**, 4, 2568-2578	3.6	87
90	Comparison of the performance of several recent syngas combustion mechanisms. *Combustion and Flame*, **2015**, 162, 1793-1812	5.3	85

89	Local and global uncertainty analyses of a methane flame model. *Journal of Physical Chemistry A*, **2005**, 109, 9795-807	2.8	82
88	Development of a Joint Hydrogen and Syngas Combustion Mechanism Based on an Optimization Approach. *International Journal of Chemical Kinetics*, **2016**, 48, 407-422	1.4	79
87	Uncertainty analysis of updated hydrogen and carbon monoxide oxidation mechanisms. *Proceedings of the Combustion Institute*, **2005**, 30, 1273-1281	5.9	79
86	Uncertainty of Arrhenius parameters. *International Journal of Chemical Kinetics*, **2011**, 43, 359-378	1.4	76
85	Local and global uncertainty analysis of complex chemical kinetic systems. *Reliability Engineering and System Safety*, **2006**, 91, 1232-1240	6.3	69
84	KINAL□ program package for kinetic analysis of reaction mechanisms. *Computers & Chemistry*, **1990**, 14, 253-254		69
83	Direct Kinetic Studies of the Reactions Br + CH3OH and CH2OH + HBr: The Heat of Formation of CH2OH. *The Journal of Physical Chemistry*, **1996**, 100, 19864-19873		64
82	Development of an Ethanol Combustion Mechanism Based on a Hierarchical Optimization Approach. *International Journal of Chemical Kinetics*, **2016**, 48, 423-441	1.4	56
81	Analysis and simplification of the GTF model of the Belousov-Zhabotinskii reaction. *The Journal of Physical Chemistry*, **1993**, 97, 1931-1941		55
80	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	5.3	51
79	Uncertainty analysis of NO production during methane combustion. *International Journal of Chemical Kinetics*, **2008**, 40, 754-768	1.4	44
78	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	6.3	42
77	Principal component analysis for reducing the Edelson-Field-Noyes model of the Belousov-Zhabotinskii reaction. *The Journal of Physical Chemistry*, **1986**, 90, 1664-1670		40
76	Uncertainty quantification of a newly optimized methanol and formaldehyde combustion mechanism. *Combustion and Flame*, **2017**, 186, 45-64	5.3	39
75	Uncertainty of the rate parameters of several important elementary reactions of the H2 and syngas combustion systems. *Combustion and Flame*, **2015**, 162, 2059-2076	5.3	39
74	Gag-Pol processing during HIV-1 virion maturation: a systems biology approach. *PLoS Computational Biology*, **2013**, 9, e1003103	5	35
73	Kinetic Analysis of Ethyl Iodide Pyrolysis Based on Shock Tube Measurements. *International Journal of Chemical Kinetics*, **2014**, 46, 295-304	1.4	31
72	Application of repro-modeling for the reduction of combustion mechanisms. *Proceedings of the Combustion Institute*, **1994**, 25, 949-955		31

71	Determination of rate parameters of cyclohexane and 1-hexene decomposition reactions. *Energy*, **2012**, 43, 85-93	7.9	29
70	Measurement and investigation of chamber radical sources in the European Photoreactor (EUPHORE). *Journal of Atmospheric Chemistry*, **2006**, 55, 147-166	3.2	27
69	Simulation of the dispersion of nuclear contamination using an adaptive Eulerian grid model. *Journal of Environmental Radioactivity*, **2004**, 75, 59-82	2.4	27
68	Time scale and dimension analysis of a budding yeast cell cycle model. *BMC Bioinformatics*, **2006**, 7, 494	3.6	26
67	Rate sensitivity analysis of a model of the Briggs-Rauscher reaction. *Reaction Kinetics and Catalysis Letters*, **1991**, 45, 235-241		25
66	Non-methane hydrocarbon and aldehyde measurements in Budapest, Hungary. *Atmospheric Environment Part A General Topics*, **1991**, 25, 2103-2110		24
65	Similarity of Sensitivity Functions of Reaction Kinetic Models. *Journal of Physical Chemistry A*, **2003**, 107, 2216-2238	2.8	23
64	Kinetic Modeling of the Decomposition of Carbon Tetrachloride in Thermal Plasma. *Plasma Chemistry and Plasma Processing*, **2005**, 25, 109-119	3.6	23
63	Determination of rate parameters based on NH2 concentration profiles measured in ammonia-doped methane–air flames. *Fuel*, **2018**, 212, 679-683	7.1	22
62	Kinetic analysis of mechanisms of complex pyrolytic reactions. *Journal of Analytical and Applied Pyrolysis*, **2007**, 79, 252-258	6	22
61	Repro-Modelling Based Generation of Intrinsic Low-Dimensional Manifolds. *Journal of Mathematical Chemistry*, **2002**, 31, 345-362	2.1	21
60	The influence of thermal coupling and diffusion on the importance of reactions: The case study of hydrogen–air combustion. *Physical Chemistry Chemical Physics*, **2003**, 5, 3622-3631	3.6	21
59	Hungarian university students' misunderstandings in thermodynamics and chemical kinetics. *Chemistry Education Research and Practice*, **2013**, 14, 105-116	2.1	19
58	Direct measurements of the neopentyl peroxy-hydroperoxy radical isomerisation over the temperature range 660–750 K. *Proceedings of the Combustion Institute*, **1992**, 24, 645-652		18
57	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	5.9	16
56	Determination of rate parameters of key N/H/O elementary reactions based on H2/O2/NOx combustion experiments. *Fuel*, **2020**, 264, 116720	7.1	16
55	Modelling ozone fluxes over Hungary. *Atmospheric Environment*, **2004**, 38, 6211-6222	5.3	15
54	Determination of Adsorption and Desorption Parameters from Ignition Temperature Measurements in Catalytic Combustion Systems. *Journal of Physical Chemistry B*, **2003**, 107, 2262-2274	3.4	15

53	On the similarity of the sensitivity functions of methane combustion models. *Combustion Theory and Modelling*, **2005**, 9, 721-738	1.5	15
52	Numerical investigation of the uncertainty of Arrhenius parameters. *Journal of Mathematical Chemistry*, **2011**, 49, 1798-1809	2.1	14
51	An Induction Parameter Model for Shock-Induced Hydrogen Combustion Simulations. *Combustion and Flame*, **1998**, 113, 106-118	5.3	14
50	Analysis of a budding yeast cell cycle model using the shapes of local sensitivity functions. *International Journal of Chemical Kinetics*, **2008**, 40, 710-720	1.4	13
49	Modelling of Carbon Tetrachloride Decomposition in Oxidative RF Thermal Plasma. *Plasma Chemistry and Plasma Processing*, **2006**, 26, 293-318	3.6	13
48	DNS Study of the Optimal Chemical Markers for Heat Release in Syngas Flames. *Flow, Turbulence and Combustion*, **2017**, 98, 1117-1132	2.5	12
47	Rate constants of the reactions of OH radicals with cyclopropane and cyclobutane. *International Journal of Chemical Kinetics*, **1992**, 24, 191-198	1.4	12
46	Chemical reactions in the Titan□s troposphere during lightning. *Icarus*, **2010**, 207, 938-947	3.8	11
45	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	5.9	10
44	Modelling photochemical air pollutant formation in Hungary using an adaptive grid technique. *International Journal of Environment and Pollution*, **2009**, 36, 44	0.7	10
43	Kinetics of reactions occurring in the unpolluted troposphere, II. Sensitivity analysis. *Reaction Kinetics and Catalysis Letters*, **1990**, 41, 103-108		10
42	Mechanically activated basic polyaluminium chloride as precursor for low-temperature □Al2O3 formation. *Scripta Materialia*, **2007**, 57, 619-621	5.6	9
41	Utilising artificial neural network and repro-modelling in turbulent combustion		9
40	Comparison of detailed reaction mechanisms for homogeneous ammonia combustion. *Zeitschrift Fur Physikalische Chemie*, **2020**, 234, 1329-1357	3.1	9
39	Investigation of the correlation of sensitivity vectors of hydrogen combustion models. *International Journal of Chemical Kinetics*, **2004**, 36, 238-252	1.4	8
38	Investigation and Improvement of Reaction Mechanisms Using Sensitivity Analysis and Optimization. *Green Energy and Technology*, **2013**, 411-445	0.6	8
37	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	5.3	7
36	Low-temperature mechanochemical□hermal synthesis of □Al2O3 nanocrystals. *Materials Research Bulletin*, **2011**, 46, 2135-2140	5.1	6

35	The method of quasi-stationary sensitivity analysis. *Journal of Mathematical Chemistry*, **1988**, 2, 401-409	2.1	6
34	Formation of NO in High-Temperature N2/O2/H2O Mixtures: Re-evaluation of Rate Coefficients. *Energy & Fuels*, **2018**, 32, 10114-10120	4.1	6
33	Effect of the soil wetness state on the stomatal ozone fluxes over Hungary. *International Journal of Environment and Pollution*, **2009**, 36, 180	0.7	5
32	Generation of model reactions leading to limit cycle behavior. *Reaction Kinetics and Catalysis Letters* , **1982**, 18, 65-71		5
31	The kinetics of hydroxyl radical reactions with cyclopropane and cyclobutane. *Journal of Chemical Sciences*, **1991**, 103, 499-503	1.8	5
30	Unified Development Solution for Cluster and Grid Computing and Its Application in Chemistry. *Lecture Notes in Computer Science*, **2004**, 226-235	0.9	5
29	Comparison of Methane Combustion Mechanisms Using Shock Tube and Rapid Compression Machine Ignition Delay Time Measurements. *Energy & Fuels*, **2021**, 35, 12329-12351	4.1	5
28	The Simulation of Photochemical Smog Episodes in Hungary and Central Europe Using Adaptive Gridding Models. *Lecture Notes in Computer Science*, **2001**, 67-76	0.9	5
27	Mechanism Reduction to Skeletal Form and Species Lumping. *Green Energy and Technology*, **2013**, 447-466	0.6	5
26	Reduction of Reaction Mechanisms **2014**, 183-312		4
25	Relaxation of concentration perturbation in chemical kinetic systems. *Reaction Kinetics and Catalysis Letters*, **2009**, 96, 269-278		4
24	Comparison of methane combustion mechanisms using laminar burning velocity measurements. *Combustion and Flame*, **2022**, 238, 111867	5.3	4
23	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	2.1	4
22	Sensitivity Analysis of Bacterial Chemotaxis Models. *Procedia Computer Science*, **2011**, 7, 233-234	1.6	3
21	Main sources of uncertainty in recent methanol/NOx combustion models. *International Journal of Chemical Kinetics*, **2021**, 53, 884-900	1.4	3
20	Low temperature first ignition of n-butane. *Combustion Theory and Modelling*, **2019**, 23, 1150-1168	1.5	2
19	CCl4 Decomposition in RF Thermal Plasma in Inert and Oxidative Environments. *Plasma Chemistry and Plasma Processing*, **2010**, 30, 281-286	3.6	2
18	Several Exact Results on Deterministic Exotic Kinetics. *Zeitschrift Fur Physikalische Chemie*, **1983**, 264O, 449-463	3.1	2

17	Sensitivity and Uncertainty Analyses **2014**, 61-144		1
16	Development of a grid enabled chemistry application. *International Journal of Computational Science and Engineering*, **2009**, 4, 195	0.4	1
15	Uncertainty analysis of varying temperature chemical kinetic systems. *Procedia, Social and Behavioral Sciences*, **2010**, 2, 7757-7758		1
14	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		1
13	The importance of chemical mechanisms in sonochemical modelling.. *Ultrasonics Sonochemistry*, **2022**, 83, 105925	8.9	1
12	Design of combustion experiments using differential entropy. *Combustion Theory and Modelling*,1-24	1.5	1
11	Modelling Photochemical Air Pollution in Hungary Using an Adaptive Grid Model **2002**, 264-273		1
10	Storage of Chemical Kinetic Information. *Green Energy and Technology*, **2013**, 485-512	0.6	1
9	Pyrolysis and oxidation of a light naphtha fuel and its surrogate blend. *Combustion and Flame*, **2022**, 240, 111979	5.3	0
8	Uncertainty Quantification of Chemical Kinetic Reaction Rate Coefficients. *Mathematics in Industry*, **2020**, 35-44	0.2	0
7	Computer Codes for the Study of Complex Reaction Systems **2014**, 337-351		
6	Similarity of Sensitivity Functions **2014**, 313-335		
5	Mechanism Construction and the Sources of Data **2014**, 39-52		
4	Reaction Kinetics Basics **2014**, 5-37		
3	Timescale Analysis **2014**, 145-182		
2	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		
1	Analysis of Complex Reaction Schemes **2016**,		