

Alison S Tomlin

List of Publications by Year in descending order

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110
papers

3,772
citations

109321

35
h-index

149698

56
g-index

115
all docs

115
docs citations

115
times ranked

3171
citing authors

#	ARTICLE	IF	CITATIONS
1	GUIâ€“HDMR â€“ A software tool for global sensitivity analysis of complex models. Environmental Modelling and Software, 2009, 24, 775-785.	4.5	194
2	Chapter 4 Mathematical tools for the construction, investigation and reduction of combustion mechanisms. Comprehensive Chemical Kinetics, 1997, , 293-437.	2.3	173
3	On the error of the quasi-steady-state approximation. The Journal of Physical Chemistry, 1993, 97, 163-172.	2.9	162
4	Uncertainty driven theoretical kinetics studies for CH ₃ OH ignition: HO ₂ +CH ₃ OH and O ₂ +CH ₃ OH. Proceedings of the Combustion Institute, 2011, 33, 351-357.	3.9	149
5	Mechanism reduction for the oscillatory oxidation of hydrogen: Sensitivity and quasi-steady-state analyses. Combustion and Flame, 1992, 91, 107-130.	5.2	131
6	Analysis of Kinetic Reaction Mechanisms. , 2014, , .		128
7	Improved near surface wind speed predictions using Gaussian process regression combined with numerical weather predictions and observed meteorological data. Renewable Energy, 2018, 126, 1043-1054.	8.9	120
8	The role of sensitivity and uncertainty analysis in combustion modelling. Proceedings of the Combustion Institute, 2013, 34, 159-176.	3.9	111
9	A global sensitivity study of sulfur chemistry in a premixed methane flame model using HDMR. International Journal of Chemical Kinetics, 2008, 40, 742-753.	1.6	108
10	Introduction to the DAPPLE Air Pollution Project. Science of the Total Environment, 2004, 332, 139-153.	8.0	107
11	An overview of the potential environmental impacts of large-scale microalgae cultivation. Biofuels, 2014, 5, 331-349.	2.4	100
12	Dispersion Experiments in Central London: The 2007 DAPPLE project. Bulletin of the American Meteorological Society, 2009, 90, 955-970.	3.3	90
13	Improvement of the Modeling of the Low-Temperature Oxidation of <i>n</i> -Butane: Study of the Primary Reactions. Journal of Physical Chemistry A, 2012, 116, 6142-6158.	2.5	72
14	Estimating Aerodynamic Parameters of Urban-Like Surfaces with Heterogeneous Building Heights. Boundary-Layer Meteorology, 2011, 141, 443-465.	2.3	68
15	Theoretical Validation of Chemical Kinetic Mechanisms: Combustion of Methanol. Journal of Physical Chemistry A, 2010, 114, 8286-8301.	2.5	66
16	Uncertainty propagation in the derivation of phenomenological rate coefficients from theory: A case study of <i>n</i> -propyl radical oxidation. Proceedings of the Combustion Institute, 2013, 34, 177-185.	3.9	64
17	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.	5.2	57
18	Global sensitivity analysis of a 3D street canyon modelâ€“Part I: The development of high dimensional model representations. Atmospheric Environment, 2008, 42, 1857-1873.	4.1	56

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19	The use of global uncertainty methods for the evaluation of combustion mechanisms. <i>Reliability Engineering and System Safety</i> , 2006, 91, 1219-1231.	8.9	51
20	Assessing the potential of urban wind energy in a major UK city using an analytical model. <i>Renewable Energy</i> , 2013, 60, 701-710.	8.9	50
21	Modelling of roof geometries from low-resolution LiDAR data for city-scale solar energy applications using a neighbouring buildings method. <i>Applied Energy</i> , 2015, 148, 93-104.	10.1	50
22	Reduced Mechanisms for Propane Pyrolysis. <i>Industrial & Engineering Chemistry Research</i> , 1995, 34, 3749-3760.	3.7	48
23	Systematic reduction of complex tropospheric chemical mechanisms, Part I: sensitivity and time-scale analyses. <i>Atmospheric Chemistry and Physics</i> , 2004, 4, 2025-2056.	4.9	47
24	A global sensitivity study of cyclohexane oxidation under low temperature fuel-rich conditions using HDMR methods. <i>Combustion Theory and Modelling</i> , 2009, 13, 589-605.	1.9	47
25	Global Sensitivity Analysis of Chemical-Kinetic Reaction Mechanisms: Construction and Deconstruction of the Probability Density Function. <i>Journal of Physical Chemistry A</i> , 2011, 115, 1556-1578.	2.5	46
26	A general analysis of approximate nonlinear lumping in chemical kinetics. I. Unconstrained lumping. <i>Journal of Chemical Physics</i> , 1994, 101, 1172-1187.	3.0	44
27	A general analysis of approximate nonlinear lumping in chemical kinetics. II. Constrained lumping. <i>Journal of Chemical Physics</i> , 1994, 101, 1188-1201.	3.0	43
28	Evaluation of Combustion Mechanisms Using Global Uncertainty and Sensitivity Analyses: A Case Study for Low-Temperature Dimethyl Ether Oxidation. <i>International Journal of Chemical Kinetics</i> , 2014, 46, 662-682.	1.6	43
29	Methodology for the assessment of PV capacity over a city region using low-resolution LiDAR data and application to the City of Leeds (UK). <i>Applied Energy</i> , 2014, 124, 28-34.	10.1	42
30	Urban wind: Characterisation of useful gust and energy capture. <i>Renewable Energy</i> , 2015, 81, 162-172.	8.9	42
31	Experimental and modelling study of sulfur and nitrogen doped premixed methane flames at low pressure. <i>Faraday Discussions</i> , 2001, 119, 337-352.	3.2	41
32	Methodologies for city-scale assessment of renewable energy generation potential to inform strategic energy infrastructure investment. <i>Cities</i> , 2016, 54, 45-56.	5.6	41
33	Mechanism reduction techniques applied to tropospheric chemistry. <i>Atmospheric Environment</i> , 1998, 32, 1059-1073.	4.1	40
34	A field study of factors influencing the concentrations of a traffic-related pollutant in the vicinity of a complex urban junction. <i>Atmospheric Environment</i> , 2009, 43, 5027-5037.	4.1	38
35	In-Street Wind Direction Variability in the Vicinity of a Busy Intersection in Central London. <i>Boundary-Layer Meteorology</i> , 2010, 136, 489-513.	2.3	37
36	Factors influencing particle number concentrations, size distributions and modal parameters at a roof-level and roadside site in Leicester, UK. <i>Science of the Total Environment</i> , 2007, 386, 65-82.	8.0	36

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37	The use of algebraic sets in the approximation of inertial manifolds and lumping in chemical kinetic systems. <i>Physica D: Nonlinear Phenomena</i> , 1995, 83, 421-449.	2.8	35
38	Observations of urban airborne particle number concentrations during rush-hour conditions: analysis of the number based size distributions and modal parameters. <i>Journal of Environmental Monitoring</i> , 2006, 8, 1203.	2.1	34
39	The predictability of above roof wind resource in the urban roughness sublayer. <i>Wind Energy</i> , 2012, 15, 225-243.	4.2	34
40	Determination of approximate lumping schemes by a singular perturbation method. <i>Journal of Chemical Physics</i> , 1993, 99, 3562-3574.	3.0	33
41	The application of the QSSA via reaction lumping for the reduction of complex hydrocarbon oxidation mechanisms. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 543-551.	3.9	33
42	Simulation of the dispersion of nuclear contamination using an adaptive Eulerian grid model. <i>Journal of Environmental Radioactivity</i> , 2004, 75, 59-82.	1.7	32
43	Evaluation of models for the low temperature combustion of alkanes through interpretation of pressure-temperature ignition diagrams. <i>Physical Chemistry Chemical Physics</i> , 2006, 8, 3197-3210.	2.8	32
44	Determining predictive uncertainties and global sensitivities for large parameter systems: A case study for n-butane oxidation. <i>Proceedings of the Combustion Institute</i> , 2015, 35, 607-616.	3.9	31
45	The influence of n-butanol blending on the ignition delay times of gasoline and its surrogate at high pressures. <i>Fuel</i> , 2017, 187, 211-219.	6.4	30
46	Low-dimensional manifolds and reduced chemical models for tropospheric chemistry simulations. <i>Atmospheric Environment</i> , 2000, 34, 2425-2436.	4.1	29
47	Genotoxicity of size-fractionated samples of urban particulate matter. <i>Environmental and Molecular Mutagenesis</i> , 2005, 45, 380-387.	2.2	29
48	The spatial variability in concentrations of a traffic-related pollutant in two street canyons in York, UK-Part II: The influence of traffic characteristics. <i>Atmospheric Environment</i> , 2005, 39, 3163-3176.	4.1	27
49	Data efficient measure-correlate-predict approaches to wind resource assessment for small-scale wind energy. <i>Renewable Energy</i> , 2014, 63, 162-171.	8.9	27
50	Global Uncertainty Propagation and Sensitivity Analysis in the CH ₃ OCH ₂ + O ₂ System: Combining Experiment and Theory To Constrain Key Rate Coefficients in DME Combustion. <i>Journal of Physical Chemistry A</i> , 2015, 119, 7430-7438.	2.5	27
51	Air Quality and Climate Impacts of Biomass Use as an Energy Source: A Review. <i>Energy & Fuels</i> , 2021, 35, 14213-14240.	5.1	27
52	Mapping the wind resource over UK cities. <i>Renewable Energy</i> , 2013, 55, 202-211.	8.9	26
53	Aerodynamic Parameters of a UK City Derived from Morphological Data. <i>Boundary-Layer Meteorology</i> , 2013, 146, 447-468.	2.3	25
54	Urban tracer dispersion experiment in London (DAPPLE) 2003: field study and comparison with empirical prediction. <i>Atmospheric Science Letters</i> , 2010, 11, 241-248.	1.9	24

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55	Evaluation of a semi-empirical model for predicting the wind energy resource relevant to small-scale wind turbines. <i>Renewable Energy</i> , 2013, 50, 280-288.	8.9	24
56	Long-term wind resource assessment for small and medium-scale turbines using operational forecast data and measureâ€œcorrelateâ€œpredict. <i>Renewable Energy</i> , 2015, 81, 760-769.	8.9	23
57	Modelling complex oscillations for the H ₂ + O ₂ reaction in an open system. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1991, 87, 2539.	1.7	21
58	Low-dimensional manifolds in tropospheric chemical systems. <i>Faraday Discussions</i> , 2002, 120, 125-146.	3.2	21
59	Experimental and modelling study of the impacts of n-butanol blending on the auto-ignition behaviour of gasoline and its surrogate at low temperatures. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 501-509.	3.9	21
60	Short-range urban dispersion experiments using fixed and moving sources. <i>Atmospheric Science Letters</i> , 2009, 10, 59-65.	1.9	20
61	Modelling ozone fluxes over Hungary. <i>Atmospheric Environment</i> , 2004, 38, 6211-6222.	4.1	19
62	Suppression of nucleation mode particles by biomass burning in an urban environment: a case study. <i>Journal of Environmental Monitoring</i> , 2008, 10, 979.	2.1	18
63	Time-Scale Splitting-Based Mechanism Reduction. <i>Green Energy and Technology</i> , 2013, , 467-484.	0.6	18
64	Comparison between the bivariate Weibull probability approach and linear regression for assessment of the long-term wind energy resource using MCP. <i>Renewable Energy</i> , 2014, 68, 529-539.	8.9	16
65	Auto-ignition and detonation of n-butanol and toluene reference fuel blends (TRF). <i>Combustion and Flame</i> , 2021, 229, 111378.	5.2	16
66	Quadratic autocatalysis in a non-isothermal CSTR. <i>Chemical Engineering Science</i> , 1989, 44, 1129-1137.	3.8	15
67	Multi-scale Atmospheric Dispersion Modelling by Use of Adaptive Gridding Techniques. <i>Environmental Monitoring and Assessment</i> , 1998, 52, 225-238.	2.7	15
68	Global sensitivity analysis of a 3D street canyon modelâ€œPart II: Application and physical insight using sensitivity analysis. <i>Atmospheric Environment</i> , 2008, 42, 1874-1891.	4.1	13
69	Low-cost wind resource assessment for small-scale turbine installations using site pre-screening and short-term wind measurements. <i>IET Renewable Power Generation</i> , 2014, 8, 349-358.	3.1	13
70	Investigation and Improvement of Reaction Mechanisms Using Sensitivity Analysis and Optimization. <i>Green Energy and Technology</i> , 2013, , 411-445.	0.6	13
71	3-D Multi-scale air pollution modelling using adaptive unstructured meshes. <i>Environmental Modelling and Software</i> , 2000, 15, 681-692.	4.5	12
72	An experimental and kinetic modeling study of the ignition delay and heat release characteristics of a five component gasoline surrogate and its blends with iso-butanol within a rapid compression machine. <i>International Journal of Chemical Kinetics</i> , 2021, 53, 787-808.	1.6	12

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73	Modelling photochemical air pollutant formation in Hungary using an adaptive grid technique. <i>International Journal of Environment and Pollution</i> , 2009, 36, 44.	0.2	11
74	Atmospheric lifetime as a probe of radical chemistry in the boundary layer. <i>Atmospheric Environment</i> , 2003, 37, 2193-2205.	4.1	10
75	The Use of Global Sensitivity Methods for the Analysis, Evaluation and Improvement of Complex Modelling Systems. <i>Lecture Notes in Computational Science and Engineering</i> , 2011, , 9-36.	0.3	10
76	The effects of parametric uncertainties in simulations of a reactive plume using a Lagrangian stochastic model. <i>Atmospheric Environment</i> , 2009, 43, 5978-5988.	4.1	9
77	Low temperature oxidation of n-butanol: Key uncertainties and constraints in kinetics. <i>Fuel</i> , 2017, 207, 776-789.	6.4	9
78	Influence of Iso-Butanol Blending with a Reference Gasoline and Its Surrogate on Spark-Ignition Engine Performance. <i>Energy & Fuels</i> , 2021, 35, 19665-19688.	5.1	9
79	The application of repro-modelling to a tropospheric chemical model. <i>Environmental Modelling and Software</i> , 2000, 15, 611-618.	4.5	8
80	Mechanism Reduction to Skeletal Form and Species Lumping. <i>Green Energy and Technology</i> , 2013, , 447-466.	0.6	8
81	From feedback to chaos in chemical systems. <i>Analytical Proceedings</i> , 1993, 30, 307.	0.4	7
82	3D adaptive unstructured meshes for air pollution modelling. <i>Management of Environmental Quality</i> , 1999, 10, 267-275.	0.4	7
83	The influence of background wind direction on the roadside turbulent velocity field within a complex urban street. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2008, 134, 1371-1384.	2.7	7
84	Experimental Study on the Influence of <i>n</i> -Butanol Blending on the Combustion, Autoignition, and Knock Properties of Gasoline and Its Surrogate in a Spark-Ignition Engine. <i>Energy & Fuels</i> , 2018, 32, 10052-10064.	5.1	7
85	Development of oscillations in closed systems. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1990, 86, 3365.	1.7	6
86	Spatial Dynamics of Steady Flames 1. Phase Space Structure and the Dynamics of Individual Trajectories. <i>Journal of Physical Chemistry A</i> , 2008, 112, 7768-7783.	2.5	6
87	Effect of the soil wetness state on the stomatal ozone fluxes over Hungary. <i>International Journal of Environment and Pollution</i> , 2009, 36, 180.	0.2	6
88	Reduction of Reaction Mechanisms. , 2014, , 183-312.		6
89	Investigation of the effect of correlated uncertain rate parameters via the calculation of global and local sensitivity indices. <i>Journal of Mathematical Chemistry</i> , 2018, 56, 864-889.	1.5	6
90	Spatial Dynamics of Steady Flames 2. Low-Dimensional Manifolds and the Role of Transport Processes. <i>Journal of Physical Chemistry A</i> , 2008, 112, 7784-7805.	2.5	5

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91	Chemical Kinetic Modeling Study on the Influence of <i>n</i> -Butanol Blending on the Combustion, Autoignition, and Knock Properties of Gasoline and Its Surrogate in a Spark-Ignition Engine. <i>Energy & Fuels</i> , 2018, 32, 10065-10077.	5.1	5
92	The Simulation of Photochemical Smog Episodes in Hungary and Central Europe Using Adaptive Gridding Models. <i>Lecture Notes in Computer Science</i> , 2001, , 67-76.	1.3	5
93	A method for mapping the turbulence intensity and excess energy available to building mounted wind turbines over a UK City. <i>Wind Energy</i> , 2016, 19, 1423-1438.	4.2	4
94	Evaluation of the Effect of Fuel Properties on the Fuel Spray and Jet Characteristics in a HGV DI Diesel Engine Operated by Used Cooking Oils. <i>Applied Mechanics and Materials</i> , 0, 694, 3-12.	0.2	3
95	The Use of 3-D Adaptive Unstructured Meshes in Air Pollution Modelling. , 1999, , 339-348.		3
96	Emissions from a HGV Using Used Cooking Oil as a Fuel under Real World Driving Conditions. , 0, , .		2
97	The treatment of uncertainties in reactive pollution dispersion models at urban scales. <i>Faraday Discussions</i> , 2016, 189, 567-587.	3.2	2
98	Evolution of particle interactions between accidentally released aerosol particles generated from powdered engineered nanomaterials into a simulated workplace atmosphere. <i>Journal of Aerosol Science</i> , 2019, 129, 98-115.	3.8	2
99	Modelling Photochemical Air Pollution in Hungary Using an Adaptive Grid Model. , 2002, , 264-273.		2
100	A polynomial repro-model applied to propane cracking. <i>Computer Aided Chemical Engineering</i> , 2005, 20, 373-378.	0.5	1
101	Sensitivity and Uncertainty Analyses. , 2014, , 61-144.		1
102	Chemical complexity of the urban atmosphere and its consequences: general discussion. <i>Faraday Discussions</i> , 2016, 189, 137-167.	3.2	1
103	Urban case studies: general discussion. <i>Faraday Discussions</i> , 2016, 189, 473-514.	3.2	1
104	Evacuation characteristics of released airborne TiO ₂ nanomaterial particles under different ventilation rates in a confined environment. <i>Journal of Environmental Management</i> , 2019, 233, 417-426.	7.8	1
105	The Estimation of Intrinsic Low Dimensional Manifold Dimension in Atmospheric Chemical Reaction Systems. , 2002, , 245-263.		1
106	Reduction of a chemical kinetic scheme for carbon monoxide-hydrogen oxidation. <i>Computer Aided Chemical Engineering</i> , 2003, 14, 581-586.	0.5	0
107	High temporal resolution measurements of roadside particle size distributions and their implications for exposure. <i>Journal of Physics: Conference Series</i> , 2009, 151, 012025.	0.4	0
108	Timescales of mixing and of chemistry: general discussion. <i>Faraday Discussions</i> , 2016, 189, 253-276.	3.2	0

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109	Numerical modelling strategies for the urban atmosphere: general discussion. Faraday Discussions, 2016, 189, 635-660.	3.2	0
110	Resolution of Pollutant Concentrations Using a Fully 3D Adaptive Method. The IMA Volumes in Mathematics and Its Applications, 2002, , 61-79.	0.5	0