Tianfeng Lu

List of Publications by Year
in descending order

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124 papers	8,607 citations	53794 45 h-index	46799 89 g-index
124 all docs	124 docs citations	124 times ranked	2935 citing authors

#	Article	IF	Citations
1	An Analytical Sensitivity Analysis Method for Turbulent Reacting Flows. , 2022, , .		0
	Effects of non-thermal termolecular reactions on detonation development in hydrogen (H<mml:math) Tj ETQq0 0 0 rgBT /Overlock 10 Tf		
2		5.2	4
3	112277. A direct numerical simulation of Jet A flame kernel quenching. Combustion and Flame, 2021, 225, 349-363.	5.2	12
4	An Automated Analytical Differentiation Framework for Reacting Flow Simulations. , 2021, , .		0
5	Numerical Analysis of Fuel Effects on Advanced Compression Ignition Using a Cooperative Fuel Research Engine Computational Fluid Dynamics Model. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	13
6	Simulations of Multi-Mode Combustion Regimes Realizable in a Gasoline Direct Injection Engine. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	4
7	Analysis of Autoignition Chemistry in Aeroderivative Premixers At Engine Conditions. Journal of Engineering for Gas Turbines and Power, 2021, , .	1.1	8
8	A second-order dynamic adaptive hybrid scheme for time-integration of stiff chemistry. Combustion and Flame, 2021, 228, 193-201.	5.2	3
9	A spectral method for fast sensitivity analysis: Perfectly stirred reactors. Combustion and Flame, 2021, 229, 111414.	5.2	0
10	On the flame stabilization of turbulent lifted hydrogen jet flames in heated coflows near the autoignition limit: A comparative DNS study. Combustion and Flame, 2021, 233, 111584.	5.2	14
11	Numerical Investigation of Fuel Property Effects on Mixed-Mode Combustion in a Spark-Ignition Engine. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	13
12	Numerical Investigation of a Central Fuel Property Hypothesis Under Boosted Spark-Ignition Conditions. Journal of Energy Resources Technology, Transactions of the ASME, 2021, 143, .	2.3	10
13	Code Structure for the Universal Reduced Kinetics Model. , 2021, , 613-616.		0
14	A linearized error propagation method for skeletal mechanism reduction. Combustion and Flame, 2020, 211, 303-311.	5.2	16
15	A direct method for calculating turning points of perfectly stirred reactors. Combustion and Flame, 2020, 211, 374-376.	5.2	0
16	A physics-based approach to modeling real-fuel combustion chemistry â€“ V. NO formation from a typical Jet A. Combustion and Flame, 2020, 212, 270-278.	5.2	23
17	A physics-based approach to modeling real-fuel combustion chemistry â€“ VI. Predictive kinetic models of gasoline fuels. Combustion and Flame, 2020, 220, 475-487.	5.2	21
18	Towards quantitative prediction of ignition-delay-time sensitivity on fuel-to-air equivalence ratio. Combustion and Flame, 2020, 214, 103-115.	5.2	16

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19	Chemical Explosive Mode Analysis for Diagnostics of Direct Numerical Simulations. , 2020, , 89-108.		1
20	Identification of premixed flame propagation modes using chemical explosive mode analysis. Proceedings of the Combustion Institute, 2019, 37, 2407-2415.	3.9	78
21	Direct numerical simulation of flame stabilization assisted by autoignition in a reheat gas turbine combustor. Proceedings of the Combustion Institute, 2019, 37, 2635-2642.	3.9	57
22	Experimental and theoretical insight into the soot tendencies of the methylcyclohexene isomers. Proceedings of the Combustion Institute, 2019, 37, 1083-1090.	3.9	13
23	Wall-impinging laminar premixed n-dodecane flames under autoignitive conditions. Proceedings of the Combustion Institute, 2019, 37, 1647-1654.	3.9	6
24	Sensitivities of direct numerical simulations to chemical kinetic uncertainties: spherical flame kernel evolution of a real jet fuel. Combustion and Flame, 2019, 209, 117-132.	5.2	10
25	Structure of strongly turbulent premixed n-dodecaneâ€“air flames: Direct numerical simulations and chemical explosive mode analysis. Combustion and Flame, 2019, 209, 27-40.	5.2	38
26	Analysis of The Chemical States of A Bluff-body Stabilized Premixed Flame Near Blowoff. , 2019, , .		1
27	Investigation of Reactive Scalar Mixing in Transported PDF Simulations of Turbulent Premixed Methane-Air Bunsen Flames. Flow, Turbulence and Combustion, 2019, 103, 667-697.	2.6	12
28	Ignition dynamics of DME/methane-air reactive mixing layer under reactivity controlled compression ignition conditions: Effects of cool flames. Applied Energy, 2019, 249, 343-354.	10.1	24
29	A numerical investigation of the flame structure and blowoff characteristics of a bluff-body stabilized turbulent premixed flame. Combustion and Flame, 2019, 202, 376-393.	5.2	23
30	Implementation of Detailed Chemistry Mechanisms in Engine Simulations. Journal of Engineering for Gas Turbines and Power, 2019, 141, .	1.1	10
31	Lagrangian Chemical Explosive Mode Analysis of Highly Turbulent Premixed Flames. , 2019, , .		0
32	Micromixing Models for PDF Simulations of Turbulent Premixed Flames. Combustion Science and Technology, 2019, 191, 1430-1455.	2.3	16
33	A physics-based approach to modeling real-fuel combustion chemistryÂâ€“ÂII. Reaction kinetic models of jet and rocket fuels. Combustion and Flame, 2018, 193, 520-537.	5.2	247
34	Direct numerical simulation of a temporally evolving air/n-dodecane jet at low-temperature diesel-relevant conditions. Combustion and Flame, 2018, 195, 183-202.	5.2	62
35	Multidimensional Numerical Simulations of Knocking Combustion in a Cooperative Fuel Research Engine. Journal of Energy Resources Technology, Transactions of the ASME, 2018, 140, .	2.3	38
36	Differential diffusion effect on the stabilization characteristics of autoignited laminar lifted methane/hydrogen jet flames in heated coflow air. Combustion and Flame, 2018, 198, 305-319.	5.2	19

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37	A Physics-based approach to modeling real-fuel combustion chemistry â€“ÂIII. Reaction kinetic model of JP10. Combustion and Flame, 2018, 198, 466-476.	5.2	67
38	Dynamic adaptive combustion modeling of spray flames based on chemical explosive mode analysis. Combustion and Flame, 2018, 195, 30-39.	5.2	34
39	A physics-based approach to modeling real-fuel combustion chemistry â€“ IV. HyChem modeling of combustion kinetics of a bio-derived jet fuel and its blends with a conventional Jet A. Combustion and Flame, 2018, 198, 477-489.	5.2	95
40	A compact skeletal mechanism for n-dodecane with optimized semi-global low-temperature chemistry for diesel engine simulations. Fuel, 2017, 191, 339-349.	6.4	186
41	A comprehensive iso-octane combustion model with improved thermochemistry and chemical kinetics. Combustion and Flame, 2017, 178, 111-134.	5.2	164
42	A mixing timescale model for TPDF simulations of turbulent premixed flames. Combustion and Flame, 2017, 177, 171-183.	5.2	27
43	Cyclopentane combustion. Part II. Ignition delay measurements and mechanism validation. Combustion and Flame, 2017, 183, 372-385.	5.2	47
44	Analysis of operator splitting errors for near-limit flame simulations. Journal of Computational Physics, 2017, 335, 578-591.	3.8	31
45	HEEDS Optimized HyChem Mechanisms. , 2017, , .		0
46	Scalable continuous flow synthesis of ZnO nanorod arrays in 3-D ceramic honeycomb substrates for low-temperature desulfurization. CrystEngComm, 2017, 19, 5128-5136.	2.6	16
47	Implementation of Detailed Chemistry Mechanisms in Engine Simulations. , 2017, , .		0
48	Multi-Dimensional CFD Simulations of Knocking Combustion in a CFR Engine. , 2017, , .		12
49	Performance of transported PDF mixing models in a turbulent premixed flame. Proceedings of the Combustion Institute, 2017, 36, 1987-1995.	3.9	30
50	A kinetics-based method for constraint selection in rate-controlled constrained equilibrium. Combustion Theory and Modelling, 2017, 21, 159-182.	1.9	12
51	A sparse stiff chemistry solver based on dynamic adaptive integration for efficient combustion simulations. Combustion and Flame, 2016, 172, 183-193.	5.2	24
52	On lumped-reduced reaction model for combustion of liquid fuels. Combustion and Flame, 2016, 163, 437-446.	5.2	27
53	Effects of Spray and Turbulence Modelling on the Mixing and Combustion Characteristics of an n-heptane Spray Flame Simulated with Dynamic Adaptive Chemistry. Flow, Turbulence and Combustion, 2016, 97, 609-629.	2.6	19
54	A computational study of ethyleneâ€“air sooting flames: Effects of large polycyclic aromatic hydrocarbons. Combustion and Flame, 2016, 163, 427-436.	5.2	48

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55	On predicting the length, width, and volume of the jet diffusion flame. Applied Thermal Engineering, 2016, 94, 799-812.	6.0	29
56	Study on combustion characteristics of dimethyl ether under the moderate or intense low-oxygen dilution condition. Energy Conversion and Management, 2016, 108, 549-565.	9.2	20
57	Soot Formation Modelling of Spray-A Using a Transported PDF Approach. , 2015, , .		5
58	A Multicomponent Blend as a Diesel Fuel Surrogate for Compression Ignition Engine Applications. Journal of Engineering for Gas Turbines and Power, 2015, 137, .	1.1	85
59	Numerical analysis of ignition and flame stabilization in an n-heptane spray flame. International Journal of Heat and Mass Transfer, 2015, 88, 565-571.	4.8	21
60	Dynamics of flowâ€“soot interaction in wrinkled non-premixed ethyleneâ€“air flames. Combustion Theory and Modelling, 2015, 19, 568-586.	1.9	6
61	A dynamic adaptive method for hybrid integration of stiff chemistry. Combustion and Flame, 2015, 162, 287-295.	5.2	43
62	Numerical and experimental investigation of turbulent DME jet flames. Proceedings of the Combustion Institute, 2015, 35, 1157-1166.	3.9	89
63	Modelling n-dodecane spray and combustion with the transported probability density function method. Combustion and Flame, 2015, 162, 2006-2019.	5.2	118
64	Direct numerical simulations of ignition of a lean n-heptane/air mixture with temperature and composition inhomogeneities relevant to HCCI and SCCI combustion. Combustion and Flame, 2015, 162, 4566-4585.	5.2	63
65	Combustion Characteristics of C₅ Alcohols and a Skeletal Mechanism for Homogeneous Charge Compression Ignition Combustion Simulation. Energy & Fuels, 2015, 29, 7584-7594.	5.1	19
66	Analysis of segregation and bifurcation in turbulent spray flames: A 3D counterflow configuration. Proceedings of the Combustion Institute, 2015, 35, 1675-1683.	3.9	57
67	A reduced multicomponent diffusion model. Combustion and Flame, 2015, 162, 68-74.	5.2	22
68	A Multi-Component Blend as a Diesel Fuel Surrogate for Compression Ignition Engine Applications. , 2014, , .		5
69	Development and validation of an n-dodecane skeletal mechanism forÂspray combustion applications. Combustion Theory and Modelling, 2014, 18, 187-203.	1.9	131
70	Effects of small-scale turbulence on NOx formation in premixed flame fronts. Fuel, 2014, 115, 241-247.	6.4	15
71	Direct numerical simulations of HCCI/SACI with ethanol. Combustion and Flame, 2014, 161, 1826-1841.	5.2	95
72	Dynamic adaptive chemistry with operator splitting schemes for reactive flow simulations. Journal of Computational Physics, 2014, 263, 19-36.	3.8	48

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73	The use of dynamic adaptive chemistry and tabulation in reactive flow simulations. Combustion and Flame, 2014, 161, 127-137.	5.2	60
74	A bifurcation analysis for limit flame phenomena of DME/air in perfectly stirred reactors. Combustion and Flame, 2014, 161, 1716-1723.	5.2	33
75	Direct numerical simulations of the ignition of a lean biodiesel/air mixture with temperature and composition inhomogeneities at high pressure and intermediate temperature. Combustion and Flame, 2014, 161, 2878-2889.	5.2	36
76	Mechanical-Agitation-Assisted Growth of Large-Scale and Uniform ZnO Nanorod Arrays within 3D Multichannel Monolithic Substrates. Crystal Growth and Design, 2013, 13, 3657-3664.	3.0	27
77	A counterflow diffusion flame study of branched octane isomers. Proceedings of the Combustion Institute, 2013, 34, 1015-1023.	3.9	44
78	A DNS study of ignition characteristics of a lean iso-octane/air mixture under HCCI and SACI conditions. Proceedings of the Combustion Institute, 2013, 34, 2985-2993.	3.9	109
79	A comprehensive experimental and modeling study of iso-pentanol combustion. Combustion and Flame, 2013, 160, 2712-2728.	5.2	95
80	Dynamic adaptive chemistry for turbulent flame simulations. Combustion Theory and Modelling, 2013, 17, 167-183.	1.9	51
81	Direct numerical simulations of the ignition of lean primary reference fuel/air mixtures with temperature inhomogeneities. Combustion and Flame, 2013, 160, 2038-2047.	5.2	103
82	Kinetic Study of Methyl Palmitate Oxidation in a Jet-Stirred Reactor and an Opposed-Flow Diffusion Flame Using a Semidetailed Mechanism. Combustion Science and Technology, 2013, 185, 711-722.	2.3	1
83	Simulating Flame Lift-Off Characteristics of Diesel and Biodiesel Fuels Using Detailed Chemical-Kinetic Mechanisms and Large Eddy Simulation Turbulence Model. Journal of Energy Resources Technology, Transactions of the ASME, 2012, 134, .	2.3	41
84	A reduced mechanism for biodiesel surrogates with low temperature chemistry for compression ignition engine applications. Combustion Theory and Modelling, 2012, 16, 369-385.	1.9	37
85	A reduced mechanism for biodiesel surrogates for compression ignition engine applications. Fuel, 2012, 99, 143-153.	6.4	125
86	Computational diagnostics for n-heptane flames with chemical explosive mode analysis. Combustion and Flame, 2012, 159, 3119-3127.	5.2	107
87	Chemical explosive mode analysis for a turbulent lifted ethylene jet flame in highly-heated coflow. Combustion and Flame, 2012, 159, 265-274.	5.2	236
88	Ignition and extinction in perfectly stirred reactors with detailed chemistry. Combustion and Flame, 2012, 159, 2069-2076.	5.2	47
89	Simulating Flame Lift-Off Characteristics of Diesel and Biodiesel Fuels Using Detailed Chemical-Kinetic Mechanisms and LES Turbulence Model. , 2011, , .		8
90	Direct numerical simulations of ignition of a lean n-heptane/air mixture with temperature inhomogeneities at constant volume: Parametric study. Combustion and Flame, 2011, 158, 1727-1741.	5.2	222

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91	Comprehensive chemical kinetic modeling of the oxidation of 2-methylalkanes from C7 to C20. Combustion and Flame, 2011, 158, 2338-2357.	5.2	466
92	A reduced mechanism for ethylene/methane mixtures with excessive NO enrichment. Combustion and Flame, 2011, 158, 1245-1254.	5.2	31
93	Numerical Study on Combustion Characteristics of Biodiesel Using a New Reduced Mechanism for Methyl Decanoate as Surrogate. , 2010, , .		2
94	Three-dimensional direct numerical simulation of a turbulent lifted hydrogen jet flame in heated coflow: a chemical explosive mode analysis. Journal of Fluid Mechanics, 2010, 652, 45-64.	3.4	271
95	A Reduced Mechanism for High-Temperature Oxidation of Biodiesel Surrogates. Energy & Fuels, 2010, 24, 6283-6293.	5.1	110
96	Toward accommodating realistic fuel chemistry in large-scale computations. Progress in Energy and Combustion Science, 2009, 35, 192-215.	31.2	612
97	Experimental and kinetic modeling study of extinction and ignition of methyl decanoate in laminar non-premixed flows. Proceedings of the Combustion Institute, 2009, 32, 1067-1074.	3.9	128
98	Dynamic stiffness removal for direct numerical simulations. Combustion and Flame, 2009, 156, 1542-1551.	5.2	111
99	Multiple criticality and staged ignition of methane in the counterflow. International Journal of Chemical Kinetics, 2009, 41, 764-776.	1.6	12
100	Strategies for mechanism reduction for large hydrocarbons: n-heptane. Combustion and Flame, 2008, 154, 153-163.	5.2	208
101	A criterion based on computational singular perturbation for the identification of quasi steady state species: A reduced mechanism for methane oxidation with NO chemistry. Combustion and Flame, 2008, 154, 761-774.	5.2	270
102	Development of Non-stiff Reduced Mechanisms for Direct Numerical Simulations. , 2008, , .		6
103	Analysis of a Turbulent Lifted Hydrogen/Air Jet Flame from Direct Numerical Simulation with Computational Singular Perturbation. , 2008, , .		19
104	Towards Accomodating Realistic Fuel Chemistry in Large-Scale Computations. , 2008, , .		5
105	The Role of double-turning in Counterflow Ignition of Methane, Ethylene and Methane/Hydrogen Mixtures. , 2008, , .		1
106	Diffusion coefficient reduction through species bundling. Combustion and Flame, 2007, 148, 117-126.	5.2	36
107	Structure of a spatially developing turbulent lean methaneâ€“air Bunsen flame. Proceedings of the Combustion Institute, 2007, 31, 1291-1298.	3.9	329
108	Simulation of soot formation in turbulent premixed flames. Combustion and Flame, 2007, 150, 108-126.	5.2	49

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110	Study of Turbulent Premixed Flame Thickness using Direct Numerical Simulation in a Slot Burner Configuration. , 2006, , .		0
111	Systematic Approach To Obtain Analytic Solutions of Quasi Steady State Species in Reduced Mechanisms. Journal of Physical Chemistry A, 2006, 110, 13202-13208.	2.5	74
112	Linear time reduction of large kinetic mechanisms with directed relation graph: n-Heptane and iso-octane. Combustion and Flame, 2006, 144, 24-36.	5.2	311
113	On the applicability of directed relation graphs to the reduction of reaction mechanisms. Combustion and Flame, 2006, 146, 472-483.	5.2	187
114	On the off-stoichiometric peaking of adiabatic flame temperature. Combustion and Flame, 2006, 145, 808-819.	5.2	93
115	Direct numerical simulations of turbulent lean premixed combustion. Journal of Physics: Conference Series, 2006, 46, 38-42.	0.4	44
116	A directed relation graph method for mechanism reduction. Proceedings of the Combustion Institute, 2005, 30, 1333-1341.	3.9	793
117	Heterogeneous Effects in the Propagation and Quenching of Spray Detonations. Journal of Propulsion and Power, 2004, 20, 820-827.	2.2	5
118	Approaches to Mechanism Reduction for Hydrocarbon Oxidation: Ethylene. , 2004, , .		2
119	Some Aspects of Chemical Kinetics in Chapman-Jouguet Detonation: Induction Length Analysis. Journal of Propulsion and Power, 2003, 19, 901-907.	2.2	32
120	Development of Comprehensive Detailed and Reduced Reaction Mechanisms for Combustion Modeling. AIAA Journal, 2003, 41, 1629-1646.	2.6	106
121	Complex CSP for chemistry reduction and analysis. Combustion and Flame, 2001, 126, 1445-1455.	5.2	201
122	Large Eddy Simulation of an n-Heptane Spray Flame with Dynamic Adaptive Chemistry under Different Oxygen Concentrations. SAE International Journal of Engines, 0, 8, 447-454.	0.4	6
123	Experimental and Numerical Investigation of Ethanol/Diethyl Ether Mixtures in a CI Engine. , 0, , .		17
124	Development of a Virtual CFR Engine Model for Knocking Combustion Analysis. SAE International Journal of Engines, 0, 11, 1069-1082.	0.4	48