Zheng Chen

List of Publications by Year
in descending order

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131	6,018	76294 40	76872 74
papers	citations	h-index	g-index

132	132	132	1828
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Determination of spatially averaged consumption speed from spherical expanding flame: A new experimental methodology. Combustion and Flame, 2022, 235, 111720.	2.8	2
2	Numerical analysis of very rich propagating spherical flames: Soot formation and its impact on the determination of laminar flame speed. Combustion and Flame, 2022, 237, 111860.	2.8	2
3	Effect of wall heat transfer on the dynamics of premixed spherical expanding flames. Thermal Science and Engineering Progress, 2022, 29, 101227.	1.3	0
4	Theoretical analysis on the ignition of a combustible mixture by a hot particle. Journal of Fluid Mechanics, 2022, 936, .	1.4	3
5	Effects of longitudinal disturbances on two-dimensional detonation waves. Physical Review Fluids, 2022, 7, .	1.0	9
6	Flamelet modeling of forced ignition and flame propagation in hydrogen-air mixtures. Combustion and Flame, 2022, 243, 112125.	2.8	10
7	Numerical studies on weak and strong ignition induced by reflected shock and boundary layer interaction. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	1.5	2
8	Numerical investigation on movement of triple points on oblique detonation surfaces. Physics of Fluids, 2022, 34, .	1.6	8
9	Thermal-pyrolysis induced over-driven flame and its potential role in the negative-temperature dependence of iso-octane flame speed at elevated temperatures. Combustion and Flame, 2021, 223, 65-76.	2.8	6
10	Effects of radiative loss on premixed planar flame propagation. Proceedings of the Combustion Institute, 2021, 38, 4683-4690.	2.4	2
11	On the prediction of hot spot induced ignition by the Livengood-Wu integral. Proceedings of the Combustion Institute, 2021, 38, 4709-4716.	2.4	4
12	Ignition of dimethyl ether/air mixtures by hot particles: Impact of low temperature chemical reactions. Proceedings of the Combustion Institute, 2021, 38, 2459-2466.	2.4	24
13	Premixed flames for arbitrary combinations of strain and curvature. Proceedings of the Combustion Institute, 2021, 38, 2031-2039.	2.4	12
14	Detonation development from a hot spot in methane/air mixtures: Effects of kinetic models. International Journal of Engine Research, 2021, 22, 2597-2606.	1.4	12
15	In-situ flame particle tracking based on barycentric coordinates for studying local flame dynamics in pulsating Bunsen flames. Proceedings of the Combustion Institute, 2021, 38, 2057-2066.	2.4	16
16	Skeletal and reduced kinetic models for methane oxidation under engine-relevant conditions. Fuel, 2021, 288, 119667.	3.4	7
17	Theoretical analysis on droplet vaporization at elevated temperatures and pressures. International Journal of Heat and Mass Transfer, 2021, 164, 120542.	2.5	7
18	Autoignition and detonation development from a hot spot inside a closed chamber: Effects of end wall reflection. Proceedings of the Combustion Institute, 2021, 38, 5905-5913.	2.4	18

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19	Propagation of gaseous detonation across inert layers. Proceedings of the Combustion Institute, 2021, 38, 3555-3563.	2.4	22
20	Diffraction of weakly unstable detonation through an obstacle with different sizes and shapes. Physical Review Fluids, 2021, 6, .	1.0	7
21	Effects of strain rate and Lewis number on forced ignition of laminar counterflow diffusion flames. Combustion and Flame, 2021, 226, 302-314.	2.8	12
22	Effects of stratification on premixed cool flame propagation and modeling. Combustion and Flame, 2021, 229, 111394.	2.8	7
23	Effects of fuel decomposition and stratification on the forced ignition of a static flammable mixture. Combustion Theory and Modelling, 2021, 25, 813-831.	1.0	5
24	On Explosion Limits of Ammoniaâ€“Oxygen Mixtures with Hydrogen Addition: Sensitivity and Nonmonotonicity. Energy & Fuels, 2021, 35, 14035-14041.	2.5	10
25	Theoretical analysis on the transient ignition of a premixed expanding flame in a quiescent mixture. Journal of Fluid Mechanics, 2021, 924, .	1.4	9
26	Heat Release Rate Markers for Highly Stretched Premixed CH₄/Air and CH₄/H₂/Air Flames. Energy & Fuels, 2021, 35, 13349-13359.	2.5	11
27	Tailored mixture properties for accurate laminar flame speed measurement from spherically expanding flames: Application to H<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>/O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>/N<mml:math xmlns:mml="http://www.w3.org/1998/Ma	2.8	10
28	Effects of stretch-chemistry interaction on chemical pathways for strained and curved hydrogen/air premixed flames. Combustion and Flame, 2021, 232, 111532.	2.8	12
29	Numerical modeling of ignition enhancement using repetitive nanosecond discharge in a hydrogen/air mixture I: calculations assuming homogeneous ignition. Journal Physics D: Applied Physics, 2021, 54, 065501.	1.3	5
30	Propagation of gaseous detonation in spatially inhomogeneous mixtures. Physics of Fluids, 2021, 33, 116105.	1.6	8
31	Numerical modeling of ignition enhancement by repetitive nanosecond discharge in a hydrogen/air mixture II: forced ignition. Journal Physics D: Applied Physics, 2021, 54, 065502.	1.3	2
32	Numerical studies on autoignition and detonation development from a hot spot in hydrogen/air mixtures. Combustion Theory and Modelling, 2020, 24, 245-261.	1.0	20
33	Development of an optically accessible apparatus to characterize the evolution of spherically expanding flames under constant volume conditions. Combustion and Flame, 2020, 212, 165-176.	2.8	21
34	Effects of Particle Size on the Ignition of Static CH4/Air and H2/Air Mixtures by Hot Particles. Combustion Science and Technology, 2020, , 1-13.	1.2	1
35	A review of laminar flame speeds of hydrogen and syngas measured from propagating spherical flames. Applications in Energy and Combustion Science, 2020, 1-4, 100008.	0.9	12
36	Effect of 2-step energy release on direct detonation initiation by a point energy source in a rich H2â€“NO2/N2O4 mixture. Combustion and Flame, 2020, 222, 317-325.	2.8	10

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37	A theoretical analysis on enthalpy of vaporization: Temperature-dependence and singularity at the critical state. Fluid Phase Equilibria, 2020, 516, 112611.	1.4	3
38	Effects of pressure rise rate on laminar flame speed under normal and engine-relevant conditions. Combustion Theory and Modelling, 2020, 24, 953-964.	1.0	4
39	Initiation and propagation of spherical premixed flames with inert solid particles. Combustion Theory and Modelling, 2020, 24, 606-631.	1.0	3
40	Laminar flame speeds of methane/air mixtures at engine conditions: Performance of different kinetic models and power-law correlations. Combustion and Flame, 2020, 218, 101-108.	2.8	46
41	On the determination of laminar flame speed from low-pressure and super-adiabatic propagating spherical flames. Proceedings of the Combustion Institute, 2019, 37, 1505-1512.	2.4	12
42	Effects of fuel stratification on ignition kernel development and minimum ignition energy of n-decane/air mixtures. Proceedings of the Combustion Institute, 2019, 37, 1623-1630.	2.4	25
43	Effects of NOx addition on autoignition and detonation development in DME/air under engine-relevant conditions. Proceedings of the Combustion Institute, 2019, 37, 4813-4820.	2.4	23
44	On laminar premixed flame propagating into autoigniting mixtures under engine-relevant conditions. Proceedings of the Combustion Institute, 2019, 37, 4673-4680.	2.4	30
45	Effects of combustion models on soot formation and evolution in turbulent nonpremixed flames. Proceedings of the Combustion Institute, 2019, 37, 985-992.	2.4	19
46	Effects of natural gas composition and compression ratio on the thermodynamic and combustion characteristics of a heavy-duty lean-burn SI engine fueled with liquefied natural gas. Fuel, 2019, 254, 115733.	3.4	45
47	Non-uniform ignition behind a reflected shock and its influence on ignition delay measured in a shock tube. Shock Waves, 2019, 29, 957-967.	1.0	7
48	Autoignition and detonation development induced by a hot spot in fuel-lean and CO2 diluted n-heptane/air mixtures. Combustion and Flame, 2019, 201, 208-214.	2.8	32
49	Effects of endothermic chain-branching reaction on spherical flame initiation and propagation. Combustion Theory and Modelling, 2019, 23, 496-514.	1.0	6
50	Effects of hydrogen addition on non-premixed ignition of iso-octane by hot air in a diffusion layer. Combustion and Flame, 2019, 199, 292-300.	2.8	17
51	Application of the Projective Method in the Numerical Simulation of Combustion. Lecture Notes in Electrical Engineering, 2019, , 1857-1864.	0.3	0
52	Bifurcation and extinction limit of stretched premixed flames with chain-branching intermediate kinetics and radiative loss. Combustion Theory and Modelling, 2018, 22, 531-553.	1.0	6
53	Numerical study on the transient evolution of a premixed cool flame. Combustion and Flame, 2018, 187, 129-136.	2.8	42
54	Ignition of hydrogen/air mixtures by a heated kernel: Role of Soret diffusion. Combustion and Flame, 2018, 197, 416-422.	2.8	11

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55	Effects of Soret diffusion on premixed flame propagation under engine-relevant conditions. Combustion and Flame, 2018, 194, 175-179.	2.8	19
56	Effects of disturbance on detonation initiation in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> mixture. Physical Review Fluids, 2018, 3, .	1.0	16
57	Linearized correction to a flamelet-based model for hydrogen-fueled supersonic combustion. International Journal of Hydrogen Energy, 2017, 42, 11937-11944.	3.8	19
58	Multi-channel nanosecond discharge plasma ignition of premixed propane/air under normal and sub-atmospheric pressures. Combustion and Flame, 2017, 182, 102-113.	2.8	36
59	Two-stage heat release in nitromethane/air flame and its impact on laminar flame speed measurement. Combustion and Flame, 2017, 183, 157-165.	2.8	24
60	Effects of radiation on large-scale spherical flame propagation. Combustion and Flame, 2017, 183, 66-74.	2.8	15
61	Different modes of reaction front propagation in n-heptane/air mixture with concentration non-uniformity. Proceedings of the Combustion Institute, 2017, 36, 3633-3641.	2.4	44
62	Effects of initial temperature on autoignition and detonation development in dimethyl ether/air mixtures with temperature gradient. Proceedings of the Combustion Institute, 2017, 36, 3643-3650.	2.4	69
63	Effects of flame propagation speed and chamber size on end-gas autoignition. Proceedings of the Combustion Institute, 2017, 36, 3533-3541.	2.4	56
64	Effects of water vapor dilution on the minimum ignition energy of methane, n -butane and n -decane at normal and reduced pressures. Fuel, 2017, 187, 111-116.	3.4	35
65	Effects of radiation absorption on spherical flame propagation and radiation-induced uncertainty in laminar flame speed measurement. Proceedings of the Combustion Institute, 2017, 36, 1129-1136.	2.4	47
66	Effects of temperature perturbation on direct detonation initiation. Proceedings of the Combustion Institute, 2017, 36, 2743-2751.	2.4	24
67	Numerical methods for complicated chemical mechanism involved in combustion simulation. Scientia Sinica: Physica, Mechanica Et Astronomica, 2017, 47, 070006.	0.2	3
68	The explosion characteristics of methane, hydrogen and their mixtures: A computational study. Journal of Loss Prevention in the Process Industries, 2016, 40, 131-138.	1.7	61
69	LES/PDF modeling of autoignition in a lifted turbulent flame: Analysis of flame sensitivity to differential diffusion and scalar mixing time-scale. Combustion and Flame, 2016, 171, 69-86.	2.8	43
70	The constant-volume propagating spherical flame method for laminar flame speed measurement. Science Bulletin, 2016, 61, 1296-1310.	4.3	75
71	The role of low temperature chemistry in combustion mode development under elevated pressures. Combustion and Flame, 2016, 174, 179-193.	2.8	106
72	Laminar flame speeds of lean high-hydrogen syngas at normal and elevated pressures. Fuel, 2016, 181, 958-963.	3.4	23

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73	Effects of finite-rate droplet evaporation on the extinction of spherical burner-stabilized diffusion flames. International Journal of Heat and Mass Transfer, 2016, 99, 691-701.	2.5	13
74	Interactions of flame propagation, auto-ignition and pressure wave during knocking combustion. Combustion and Flame, 2016, 164, 319-328.	2.8	62
75	Numerical study of laminar flame speed of fuel-stratified hydrogen/air flames. Combustion and Flame, 2016, 163, 394-405.	2.8	37
76	Supersonic reaction front propagation initiated by a hot spot in n -heptane/air mixture with multistage ignition. Combustion and Flame, 2015, 162, 4183-4193.	2.8	88
77	Numerical experiments on reaction front propagation in n-heptane/air mixture with temperature gradient. Proceedings of the Combustion Institute, 2015, 35, 3045-3052.	2.4	135
78	Determination of burning velocities from spherically expanding H 2 /air flames. Proceedings of the Combustion Institute, 2015, 35, 711-719.	2.4	57
79	Laminar flame speeds of H 2 /CO with CO 2 dilution at normal and elevated pressures and temperatures. Fuel, 2015, 148, 32-38.	3.4	75
80	Effects of Soret diffusion on spherical flame initiation and propagation. International Journal of Heat and Mass Transfer, 2015, 82, 309-315.	2.5	15
81	On the accuracy of laminar flame speeds measured from outwardly propagating spherical flames: Methane/air at normal temperature and pressure. Combustion and Flame, 2015, 162, 2442-2453.	2.8	206
82	Laminar flame propagation and ignition properties of premixed iso-octane/air with hydrogen addition. Fuel, 2015, 158, 443-450.	3.4	49
83	Effects of finite-rate droplet evaporation on the ignition and propagation of premixed spherical spray flame. Combustion and Flame, 2015, 162, 2128-2139.	2.8	25
84	Effects of radiation on the uncertainty of flame speed determination using spherically propagating flames with CO/CO2/H2O dilutions at elevated pressures. International Journal of Heat and Mass Transfer, 2015, 86, 820-825.	2.5	22
85	Multi-timescale and correlated dynamic adaptive chemistry modeling of ignition and flame propagation using a real jet fuel surrogate model. Combustion and Flame, 2015, 162, 1530-1539.	2.8	37
86	Effects of Soret Diffusion on Premixed Counterflow Flames. Combustion Science and Technology, 2015, 187, 1195-1207.	1.2	9
87	End-gas autoignition and detonation development in a closed chamber. Combustion and Flame, 2015, 162, 4102-4111.	2.8	106
88	Effects of reaction reversibility on ignition and flame propagation. Journal of Mathematical Chemistry, 2015, 53, 386-401.	0.7	0
89	Uncertainty in stretch extrapolation of laminar flame speed from expanding spherical flames. Proceedings of the Combustion Institute, 2015, 35, 663-670.	2.4	164
90	Effects of Soret diffusion on laminar flames. Zhongguo Kexue Jishu Kexue/Scientia Sinica Technologica, 2015, 45, 1117-1129.	0.3	1

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91	Ignition of methane with hydrogen and dimethyl ether addition. Fuel, 2014, 118, 1-8.	3.4	51
92	Determination of Laminar Burning Speeds and Markstein Lengths ofp-Cymene/Air Mixtures Using Three Models. Combustion Science and Technology, 2014, 186, 490-503.	1.2	9
93	Laminar flame speed and Markstein length of syngas at normal and elevated pressures and temperatures. Fuel, 2014, 137, 339-345.	3.4	41
94	Radiation-induced uncertainty in laminar flame speed measured from propagating spherical flames. Combustion and Flame, 2014, 161, 2815-2824.	2.8	166
95	Ignition enhancement of ethylene/air by NOx addition. Chinese Journal of Aeronautics, 2013, 26, 876-883.	2.8	10
96	Flame propagation in a tube with wall quenching of radicals. Combustion and Flame, 2013, 160, 2810-2819.	2.8	41
97	Measurements of the critical initiation radius and unsteady propagation of n-decane/air premixed flames. Proceedings of the Combustion Institute, 2013, 34, 929-936.	2.4	109
98	Outwardly Propagating Spherical Flames with Thermally Sensitive Intermediate Kinetics and Radiative Loss. Combustion Science and Technology, 2013, 185, 226-248.	1.2	15
99	A dynamic adaptive chemistry scheme with error control for combustion modeling with a large detailed mechanism. Combustion and Flame, 2013, 160, 225-231.	2.8	43
100	Interaction of pressure wave and propagating flame during knock. International Journal of Hydrogen Energy, 2013, 38, 15510-15519.	3.8	12
101	Critical condition for the ignition of reactant mixture by radical deposition. Proceedings of the Combustion Institute, 2013, 34, 3267-3275.	2.4	26
102	Effects of Soret diffusion on the laminar flame speed and Markstein length of syngas/air mixtures. Proceedings of the Combustion Institute, 2013, 34, 695-702.	2.4	46
103	Effects of heat conduction and radical quenching on premixed stagnation flame stabilised by a wall. Combustion Theory and Modelling, 2013, 17, 682-706.	1.0	19
104	Numerical Study on the Ignition Process of n-Decane/Toluene Binary Fuel Blends. Energy & Fuels, 2012, 26, 6729-6736.	2.5	4
105	A model for the laminar flame speed of binary fuel blends and its application to methane/hydrogen mixtures. International Journal of Hydrogen Energy, 2012, 37, 10390-10396.	3.8	59
106	Asymptotic analysis of outwardly propagating spherical flames. Acta Mechanica Sinica/Lixue Xuebao, 2012, 28, 359-366.	1.5	15
107	HDMR correlations for the laminar burning velocity of premixed CH4/H2/O2/N2 mixtures. International Journal of Hydrogen Energy, 2012, 37, 691-697.	3.8	11
108	Effects of diluents on the ignition of premixed H2/air mixtures. Combustion and Flame, 2012, 159, 151-160.	2.8	82

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109	Correlations for the ignition delay times of hydrogen/air mixtures. Science Bulletin, 2011, 56, 215-221.	1.7	22
110	On the extraction of laminar flame speed and Markstein length from outwardly propagating spherical flames. Combustion and Flame, 2011, 158, 291-300.	2.8	295
111	Spherical flame initiation and propagation with thermally sensitive intermediate kinetics. Combustion and Flame, 2011, 158, 1520-1531.	2.8	40
112	On the critical flame radius and minimum ignition energy for spherical flame initiation. Proceedings of the Combustion Institute, 2011, 33, 1219-1226.	2.4	173
113	Multi-timescale modeling of ignition and flame regimes of n-heptane-air mixtures near spark assisted homogeneous charge compression ignition conditions. Proceedings of the Combustion Institute, 2011, 33, 1245-1251.	2.4	93
114	A dynamic multi-timescale method for combustion modeling with detailed and reduced chemical kinetic mechanisms. Combustion and Flame, 2010, 157, 1111-1121.	2.8	128
115	A path flux analysis method for the reduction of detailed chemical kinetic mechanisms. Combustion and Flame, 2010, 157, 1298-1307.	2.8	366
116	Effects of radiation and compression on propagating spherical flames of methane/air mixtures near the lean flammability limit. Combustion and Flame, 2010, 157, 2267-2276.	2.8	161
117	Studies on the Outwardly and Inwardly Propagating Spherical Flames with Radiative Loss. Combustion Science and Technology, 2010, 182, 124-142.	1.2	30
118	Effects of compression and stretch on the determination of laminar flame speeds using propagating spherical flames. Combustion Theory and Modelling, 2009, 13, 343-364.	1.0	148
119	Effects of hydrogen addition on the propagation of spherical methane/air flames: A computational study. International Journal of Hydrogen Energy, 2009, 34, 6558-6567.	3.8	71
120	Effects of Lewis number and ignition energy on the determination of laminar flame speed using propagating spherical flames. Proceedings of the Combustion Institute, 2009, 32, 1253-1260.	2.4	344
121	Effect of cylindrical confinement on the determination of laminar flame speeds using outwardly propagating flames. Combustion and Flame, 2009, 156, 771-779.	2.8	339
122	Studies on the Critical Flame Radius and Minimum Ignition Energy for Spherical Flame Initiation. , 2009, , .		1
123	An Efficient Multi Time Scale Method for Solving Stiff ODEs with Detailed Kinetic Mechanisms and Multi Scale Physical Chemical Processes. , 2009, , .		1
124	Combined effects of curvature, radiation, and stretch on the extinction of premixed tubular flames. International Journal of Heat and Mass Transfer, 2008, 51, 6118-6125.	2.5	22
125	Regularized random-sampling high dimensional model representation (RS-HDMR). Journal of Mathematical Chemistry, 2008, 43, 1207-1232.	0.7	59
126	Effects of Lewis Number on Spherical Flame Initiation. , 2008, , .		0

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127	Combined Effects of Stretch, Curvature, and Radiation on the Extinction of Tubular Premixed Flames. , 2007, , .		1
128	On the Accurate Determination of Flame Speeds at Normal and Elevated Pressures by Using a Spherical Bomb: The Effects of Compression and Stretch. , 2007, , .		0
129	Theoretical analysis of the evolution from ignition kernel to flame ball and planar flame. Combustion Theory and Modelling, 2007, 11, 427-453.	1.0	189
130	High temperature ignition and combustion enhancement by dimethyl ether addition to methaneâ€“air mixtures. Proceedings of the Combustion Institute, 2007, 31, 1215-1222.	2.4	145
131	Studies of radiation absorption on flame speed and flammability limit of CO2 diluted methane flames at elevated pressures. Proceedings of the Combustion Institute, 2007, 31, 2693-2700.	2.4	156