Chang Yachao

List of Publications by Year
in descending order

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71 papers	3,617 citations	126907 33 h-index	155660 55 g-index
71 all docs	71 docs citations	71 times ranked	1528 citing authors

#	Article	IF	Citations
1	Enhancement on a Skeletal Kinetic Model for Primary Reference Fuel Oxidation by Using a Semidecoupling Methodology. Energy & Fuels, 2012, 26, 7069-7083.	5.1	260
2	Numerical study on the combustion and emission characteristics of a methanol/diesel reactivity controlled compression ignition (RCCI) engine. Applied Energy, 2013, 106, 184-197.	10.1	237
3	Parametric study and optimization of a RCCI (reactivity controlled compression ignition) engine fueled with methanol and diesel. Energy, 2014, 65, 319-332.	8.8	173
4	A reduced toluene reference fuel chemical kinetic mechanism for combustion and polycyclic-aromatic hydrocarbon predictions. Combustion and Flame, 2015, 162, 2390-2404.	5.2	171
5	Development of a skeletal mechanism for diesel surrogate fuel by using a decoupling methodology. Combustion and Flame, 2015, 162, 3785-3802.	5.2	162
6	Development of a new skeletal mechanism for n-decane oxidation under engine-relevant conditions based on a decoupling methodology. Combustion and Flame, 2013, 160, 1315-1332.	5.2	154
7	The effect of injection timing and intake valve close timing on performance and emissions of diesel PCCI engine with a full engine cycle CFD simulation. Applied Energy, 2011, 88, 2967-2975.	10.1	126
8	Thermodynamic energy and exergy analysis of three different engine combustion regimes. Applied Energy, 2016, 180, 849-858.	10.1	117
9	Development of a reduced n-dodecane-PAH mechanism and its application for n-dodecane soot predictions. Fuel, 2014, 136, 25-36.	6.4	111
10	Development of a New Skeletal Chemical Kinetic Model of Toluene Reference Fuel with Application to Gasoline Surrogate Fuels for Computational Fluid Dynamics Engine Simulation. Energy & Fuels, 2013, 27, 4899-4909.	5.1	105
11	Experimental and modeling study of liquid fuel injection and combustion in diesel engines with a common rail injection system. Applied Energy, 2018, 230, 287-304.	10.1	94
12	Towards a comprehensive understanding of the influence of fuel properties on the combustion characteristics of a RCCI (reactivity controlled compression ignition) engine. Energy, 2016, 99, 69-82.	8.8	86
13	Towards a comprehensive optimization of engine efficiency and emissions by coupling artificial neural network (ANN) with genetic algorithm (GA). Energy, 2021, 225, 120331.	8.8	82
14	Multiple-objective optimization of methanol/diesel dual-fuel engine at low loads: A comparison of reactivity controlled compression ignition (RCCI) and direct dual fuel stratification (DDFS) strategies. Fuel, 2020, 262, 116673.	6.4	80
15	DEVELOPMENT OF A NEW SPRAY/WALL INTERACTION MODEL FOR DIESEL SPRAY UNDER PCCI-ENGINE RELEVANT CONDITIONS. Atomization and Sprays, 2014, 24, 41-80.	0.8	74
16	Development of a skeletal oxidation mechanism for biodiesel surrogate. Proceedings of the Combustion Institute, 2015, 35, 3037-3044.	3.9	69
17	Improvement on a skeletal chemical kinetic model of iso-octane for internal combustion engine by using a practical methodology. Fuel, 2013, 103, 884-891.	6.4	67
18	Application of a Decoupling Methodology for Development of Skeletal Oxidation Mechanisms for Heavy n-Alkanes from n-Octane to n-Hexadecane. Energy & Fuels, 2013, 27, 3467-3479.	5.1	62

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19	Numerical evaluation of the potential of late intake valve closing strategy for diesel PCCI (premixed) Tj ETQq1 1 0.784314 rgBT /Overlo	8.8	61
20	Development of an improved liquid film model for spray/wall interaction under engine-relevant conditions. International Journal of Multiphase Flow, 2016, 79, 74-87.	3.4	59
21	Evaluation of the necessity of exhaust gas recirculation employment for a methanol/diesel reactivity controlled compression ignition engine operated at medium loads. Energy Conversion and Management, 2015, 101, 40-51.	9.2	57
22	Application of the Optimized Decoupling Methodology for the Construction of a Skeletal Primary Reference Fuel Mechanism Focusing on Engine-Relevant Conditions. Frontiers in Mechanical Engineering, 2015, 1, .	1.8	53
23	Development of a quasi-dimensional vaporization model for multi-component fuels focusing on forced convection and high temperature conditions. International Journal of Heat and Mass Transfer, 2016, 97, 130-145.	4.8	51
24	Effect of combustion regime on in-cylinder heat transfer in internal combustion engines. International Journal of Engine Research, 2016, 17, 331-346.	2.3	51
25	Development of a Phenomenological Soot Model Coupled with a Skeletal PAH Mechanism for Practical Engine Simulation. Energy & Fuels, 2013, 27, 1699-1711.	5.1	49
26	Computational optimization of fuel supply, syngas composition, and intake conditions for a syngas/diesel RCCI engine. Fuel, 2018, 234, 120-134.	6.4	49
27	An efficient liquid film vaporization model for multi-component fuels considering thermal and mass diffusions. Applied Thermal Engineering, 2017, 112, 534-548.	6.0	48
28	Comprehensive analysis of exergy destruction sources in different engine combustion regimes. Energy, 2018, 149, 697-708.	8.8	47
29	Construction of a skeletal oxidation mechanism of n-pentanol by integrating decoupling methodology, genetic algorithm, and uncertainty quantification. Combustion and Flame, 2018, 194, 15-27.	5.2	45
30	Numerical simulation of cyclic variability in reactivity-controlled compression ignition combustion with a focus on the initial temperature at intake valve closing. International Journal of Engine Research, 2015, 16, 441-460.	2.3	43
31	Potential of reactivity controlled compression ignition (RCCI) combustion coupled with variable valve timing (VVT) strategy for meeting Euro 6 emission regulations and high fuel efficiency in a heavy-duty diesel engine. Energy Conversion and Management, 2018, 171, 683-698.	9.2	42
32	Principle of determining the optimal operating parameters based on fuel properties and initial conditions for RCCI engines. Fuel, 2018, 216, 284-295.	6.4	41
33	Mechanism of micro-explosion of water-in-oil emulsified fuel droplet and its effect on soot generation. Energy, 2020, 191, 116488.	8.8	41
34	Evaluation of variable compression ratio (VCR) and variable valve timing (VVT) strategies in a heavy-duty diesel engine with reactivity controlled compression ignition (RCCI) combustion under a wide load range. Fuel, 2019, 253, 114-128.	6.4	40
35	Construction of a skeletal mechanism for butanol isomers based on the decoupling methodology. Energy Conversion and Management, 2016, 128, 250-260.	9.2	33
36	Efficient Approach for the Optimization of Skeletal Chemical Mechanisms with Multiobjective Genetic Algorithm. Energy & Fuels, 2018, 32, 7086-7102.	5.1	32

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37	Multi-objective optimization of the combustion of a heavy-duty diesel engine with low temperature combustion under a wide load range: (I) Computational method and optimization results. Energy, 2017, 126, 707-719.	8.8	31
38	An improved method for coupling the in-nozzle cavitation with Multi-fluid-quasi-VOF model for diesel spray. Computers and Fluids, 2018, 177, 20-32.	2.5	29
39	Reduction of large-scale chemical mechanisms using global sensitivity analysis on reaction class/sub-mechanism. Combustion and Flame, 2020, 212, 355-366.	5.2	29
40	Experimental study on the influence of low-temperature combustion (LTC) mode and fuel properties on cyclic variations in a compression-ignition engine. Fuel, 2019, 256, 115907.	6.4	26
41	Establishment of an improved heat transfer model based on an enhanced thermal wall function for internal combustion engines operated under different combustion modes. Energy Conversion and Management, 2019, 195, 748-759.	9.2	26
42	Development of a practical reaction model of polycyclic aromatic hydrocarbon (PAH) formation and oxidation for diesel surrogate fuel. Fuel, 2020, 267, 117159.	6.4	25
43	Numerical optimization and comparative study of n-butanol concentration stratification combustion and n-butanol/diesel reactivity stratification combustion for advanced compression ignition (CI) engine. Fuel, 2018, 213, 83-97.	6.4	24
44	Understanding the Relationship between Cetane Number and the Ignition Delay in Shock Tubes for Different Fuels Based on a Skeletal Primary Reference Fuel (n-Hexadecane/Iso-cetane) Mechanism. Energy & Fuels, 2015, 29, 3413-3427.	5.1	23
45	Multi-objective optimization of the combustion of a heavy-duty diesel engine with low temperature combustion (LTC) under a wide load range: (II) Detailed parametric, energy, and exergy analysis. Energy, 2017, 139, 247-261.	8.8	23
46	Sprayâ€“turbulenceâ€“chemistry interactions under engine-like conditions. Progress in Energy and Combustion Science, 2021, 86, 100939.	31.2	22
47	Feasibility study of the combustion strategy of n-butanol/diesel dual direct injection (DI2) in a compression-ignition engine. Fuel, 2021, 289, 119865.	6.4	21
48	Computational optimization of the dual-mode dual-fuel concept through genetic algorithm at different engine loads. Energy Conversion and Management, 2020, 208, 112577.	9.2	20
49	Construction of reduced oxidation mechanisms of polyoxymethylene dimethyl ethers (PODE1â€“6) with consistent structure using decoupling methodology and reaction rate rule. Combustion and Flame, 2021, 232, 111534.	5.2	20
50	Construction and derivation of a series of skeletal chemical mechanisms for n-alkanes with uniform and decoupling structure based on reaction rate rules. Combustion and Flame, 2022, 236, 111785.	5.2	18
51	Influence of the functional group of fuels on the construction of skeletal chemical mechanisms: A case study of 1-hexane, 1-hexene, and 1-hexanol. Combustion and Flame, 2020, 221, 120-135.	5.2	17
52	Construction and assessment of reduced oxidation mechanisms using global sensitivity analysis and uncertainty analysis. Proceedings of the Combustion Institute, 2019, 37, 751-761.	3.9	16
53	Kinetic Modeling Study of Polycyclic Aromatic Hydrocarbon Formation and Oxidation for Oxygenated Fuels including Methanol, n-Butanol, Methyl Butanoate, and Dimethyl Ether. Energy & Fuels, 2020, 34, 4882-4898.	5.1	16
54	Construction of Skeletal Oxidation Mechanisms for the Saturated Fatty Acid Methyl Esters from Methyl Butanoate to Methyl Palmitate. Energy & Fuels, 2015, 29, 1076-1089.	5.1	15

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55	Development of a decoupling physical-chemical surrogate (DPCS) model for simulation of the spray and combustion of multi-component biodiesel fuels. Fuel, 2019, 240, 16-30.	6.4	15
56	Numerical investigation into primary breakup of diesel spray with residual bubbles in the nozzle. Fuel, 2019, 250, 265-276.	6.4	14
57	Construction of a decoupling physicalâ€“chemical surrogate (DPCS) for practical diesel fuel. Applied Thermal Engineering, 2019, 149, 536-547.	6.0	14
58	Comparing the Exergy Destruction of Methanol and Gasoline in Reactivity Controlled Compression Ignition (RCCI) Engine. , 0, , .		13
59	Computational optimization of the piston bowl geometry for the different combustion regimes of the dual-mode dual-fuel (DMDF) concept through an improved genetic algorithm. Energy Conversion and Management, 2021, 246, 114658.	9.2	13
60	Development of a 5-component gasoline surrogate model using recent advancements in the detailed H2/O2/CO/C1-C3 mechanism for decoupling methodology. Fuel, 2021, 283, 118793.	6.4	12
61	Simulations of gasoline engine combustion and emissions using a chemical-kinetics-based turbulent premixed combustion modeling approach. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2017, 231, 743-765.	1.9	11
62	Collaborative optimization of fuel composition and operating parameters of gasoline compression ignition (GCI) engine in a wide load range. Fuel, 2022, 310, 122366.	6.4	11
63	Numerical analysis of jet breakup based on a modified compressible two-fluid-LES model. Fuel, 2019, 254, 115608.	6.4	9
64	Flash boiling explosion model of dimethyl ether (DME)/n-pentane bi-component droplet under gasoline engine conditions. Fuel, 2019, 243, 240-250.	6.4	8
65	Development of a Reduced Chemical Mechanism for Dimethyl Ether (DME) Using a Decoupling Methodology. , 0, , .		6
66	Reduction of Detailed Chemical Mechanisms Using Reaction Class-Based Global Sensitivity and Path Sensitivity Analyses. Energy & Fuels, 2019, 33, 9289-9301.	5.1	4
67	Construction of a Skeletal Oxidation Mechanism for 2,5-Dimethylfuran Using Decoupling Methodology and Reaction Class-Based Global Sensitivity Analysis. Energy & Fuels, 2020, 34, 16654-16665.	5.1	4
68	Construction of reduced chemical mechanisms orientated toward specific applications: a case study of primary reference fuel. Combustion Theory and Modelling, 2022, 26, 560-589.	1.9	4
69	Novel Method for Quantitative Assessment of Reduced Chemical Mechanisms Based on the Inherent Similarity Evaluation: Case Study of n-Heptane. Energy & Fuels, 2021, 35, 4478-4492.	5.1	3
70	Understanding of the Ignition Behavior of n-Heptane Spray in Constant Volume Combustion Bombs Focusing on Chemical Kinetics. Energy & Fuels, 2019, 33, 12830-12838.	5.1	2
71	Numerical Optimization of the Piston Bowl Geometry and Investigation of the Key Geometric Parameters for the Dual-Mode Dual-Fuel (DMDF) Concept under a Wide Load Range. , 0, , .		1