Matthew A Oehlschlaeger

List of Publications by Year
in descending order

86 papers	5,696 citations	81743 39 h-index	76769 74 g-index
87 all docs	87 docs citations	87 times ranked	2591 citing authors

#	Article	IF	Citations
1	A jet fuel surrogate formulated by real fuel properties. Combustion and Flame, 2010, 157, 2333-2339.	2.8	484
2	Comprehensive chemical kinetic modeling of the oxidation of 2-methylalkanes from C7 to C20. Combustion and Flame, 2011, 158, 2338-2357.	2.8	466
3	The experimental evaluation of a methodology for surrogate fuel formulation to emulate gas phase combustion kinetic phenomena. Combustion and Flame, 2012, 159, 1444-1466.	2.8	355
4	A comprehensive experimental and modeling study of isobutene oxidation. Combustion and Flame, 2016, 167, 353-379.	2.8	282
5	An experimental and modeling study of propene oxidation. Part 2: Ignition delay time and flame speed measurements. Combustion and Flame, 2015, 162, 296-314.	2.8	270
6	An Experimental and Kinetic Modeling Study of the Oxidation of the Four Isomers of Butanol. Journal of Physical Chemistry A, 2008, 112, 10843-10855.	1.1	257
7	A Shock Tube Study of the Ignition of n-Heptane, n-Decane, n-Dodecane, and n-Tetradecane at Elevated Pressures. Energy & Fuels, 2009, 23, 2482-2489.	2.5	247
8	Compositional effects on the ignition of FACE gasolines. Combustion and Flame, 2016, 169, 171-193.	2.8	174
9	Autoignition studies of conventional and Fischerâ€“Tropsch jet fuels. Fuel, 2012, 98, 249-258.	3.4	147
10	Ignition of alkane-rich FACE gasoline fuels and their surrogate mixtures. Proceedings of the Combustion Institute, 2015, 35, 249-257.	2.4	138
11	The combustion kinetics of a synthetic paraffinic jet aviation fuel and a fundamentally formulated, experimentally validated surrogate fuel. Combustion and Flame, 2012, 159, 3014-3020.	2.8	124
12	The autoignition of iso-cetane at high to moderate temperatures and elevated pressures: Shock tube experiments and kinetic modeling. Combustion and Flame, 2009, 156, 2165-2172.	2.8	122
13	The autoignition of C8H10 aromatics at moderate temperatures and elevated pressures. Combustion and Flame, 2009, 156, 1053-1062.	2.8	109
14	Shock Tube and Chemical Kinetic Modeling Study of the Oxidation of 2,5-Dimethylfuran. Journal of Physical Chemistry A, 2013, 117, 1371-1392.	1.1	108
15	A shock tube study of the auto-ignition of toluene/air mixtures at high pressures. Proceedings of the Combustion Institute, 2009, 32, 165-172.	2.4	102
16	The combustion properties of 2,6,10-trimethyl dodecane and a chemical functional group analysis. Combustion and Flame, 2014, 161, 826-834.	2.8	100
17	A comprehensive experimental and modeling study of iso-pentanol combustion. Combustion and Flame, 2013, 160, 2712-2728.	2.8	95
18	High-Temperature Thermal Decomposition of Isobutane and n-Butane Behind Shock Waves. Journal of Physical Chemistry A, 2004, 108, 4247-4253.	1.1	94

#	Article	IF	Citations
19	A shock tube study of iso-octane ignition at elevated pressures: The influence of diluent gases. Combustion and Flame, 2008, 155, 739-755.	2.8	91
20	A shock tube study of methyl decanoate autoignition at elevated pressures. Combustion and Flame, 2012, 159, 476-481.	2.8	89
21	A comprehensive combustion chemistry study of 2,5-dimethylhexane. Combustion and Flame, 2014, 161, 1444-1459.	2.8	88
22	A shock tube study of cyclopentane and cyclohexane ignition at elevated pressures. International Journal of Chemical Kinetics, 2008, 40, 624-634.	1.0	84
23	High-temperature ethane and propane decomposition. Proceedings of the Combustion Institute, 2005, 30, 1119-1127.	2.4	79
24	A shock tube ignition delay study of conventional diesel fuel and hydroprocessed renewable diesel fuel from algal oil. Fuel, 2014, 128, 21-29.	3.4	76
25	Thermal decomposition of toluene: Overall rate and branching ratio. Proceedings of the Combustion Institute, 2007, 31, 211-219.	2.4	73
26	Ignition time measurements for methylcylcohexaneâ€•and ethylcyclohexaneâ€•air mixtures at elevated pressures. International Journal of Chemical Kinetics, 2009, 41, 82-91.	1.0	69
27	An experimental and kinetic modeling study of the autoignition of Î±-methylnaphthalene/air and Î±-methylnaphthalene/n-decane/air mixtures at elevated pressures. Combustion and Flame, 2010, 157, 1976-1988.	2.8	67
28	Investigation of the reaction of toluene with molecular oxygen in shock-heated gases. Combustion and Flame, 2006, 147, 195-208.	2.8	56
29	Dimethyl Ether Autoignition at Engine-Relevant Conditions. Energy & Fuels, 2013, 27, 2811-2817.	2.5	53
30	The high-temperature autoignition of biodiesels and biodiesel components. Combustion and Flame, 2014, 161, 3014-3021.	2.8	51
31	A diesel engine study of conventional and alternative diesel and jet fuels: Ignition and emissions characteristics. Fuel, 2014, 136, 253-260.	3.4	51
32	Experimental and Kinetic Modeling Study of the Pyrolysis and Oxidation of Decalin. Energy & Fuels, 2009, 23, 1464-1472.	2.5	48
33	Combustion characteristics of C4 iso-alkane oligomers: Experimental characterization of iso-dodecane as a jet fuel surrogate component. Combustion and Flame, 2016, 165, 137-143.	2.8	48
34	High-Temperature Thermal Decomposition of Benzyl Radicalsâ€. Journal of Physical Chemistry A, 2006, 110, 6649-6653.	1.1	46
35	Methyl concentration time-histories during iso-octane and n-heptane oxidation and pyrolysis. Proceedings of the Combustion Institute, 2007, 31, 321-328.	2.4	46
36	Comparative Study of the Autoignition of Methyl Decenoates, Unsaturated Biodiesel Fuel Surrogates. Energy & Fuels, 2013, 27, 5527-5532.	2.5	46

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37	Nanofluid pendant droplet evaporation: Experiments and modeling. International Journal of Heat and Mass Transfer, 2014, 74, 263-268.	2.5	43
38	A mid-infrared scanned-wavelength laser absorption sensor forÂcarbon monoxide and temperature measurements fromÂ900ÂtoÂ4000ÂK. Applied Physics B: Lasers and Optics, 2010, 99, 353-362.	1.1	42
39	The combustion properties of 1,3,5-trimethylbenzene and a kinetic model. Fuel, 2013, 109, 125-136.	3.4	41
40	Experimental Investigation of Toluene + H â†’ Benzyl + H2at High Temperatures. Journal of Physical Chemistry A, 2006, 110, 9867-9873.	1.1	40
41	Autoignition behavior of synthetic alternative jet fuels: An examination of chemical composition effects on ignition delays at low to intermediate temperatures. Proceedings of the Combustion Institute, 2015, 35, 2983-2991.	2.4	39
42	Impact of non-ideal behavior on ignition delay and chemical kinetics in high-pressure shock tube reactors. Combustion and Flame, 2018, 189, 1-11.	2.8	37
43	An experimental and modeling study of the autoignition of 3-methylheptane. Proceedings of the Combustion Institute, 2013, 34, 335-343.	2.4	33
44	The interaction of falling and sessile drops on a hydrophobic surface. Experimental Thermal and Fluid Science, 2016, 79, 36-43.	1.5	32
45	A carbon monoxide and thermometry sensor based on mid-IR quantum-cascade laser wavelength-modulation absorption spectroscopy. Applied Physics B: Lasers and Optics, 2011, 103, 959-966.	1.1	31
46	A surrogate mixture and kinetic mechanism for emulating the evaporation and autoignition characteristics of gasoline fuel. Combustion and Flame, 2015, 162, 3773-3784.	2.8	31
47	The photo-induced ignition of quiescent ethylene/air mixtures containing suspended carbon nanotubes. Proceedings of the Combustion Institute, 2011, 33, 3359-3366.	2.4	30
48	Autoignition of Methyl Decanoate, a Biodiesel Surrogate, under High-Pressure Exhaust Gas Recirculation Conditions. Energy & Fuels, 2012, 26, 4887-4895.	2.5	30
49	Ignition delay times for jet and diesel fuels: Constant volume spray and gas-phase shock tube measurements. Fuel, 2018, 219, 312-319.	3.4	29
50	Diesel engine CFD simulations: Influence of fuel variability on ignition delay. Fuel, 2016, 181, 170-177.	3.4	28
51	High-temperature UV absorption of methyl radicals behind shock waves. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 92, 393-402.	1.1	27
52	Deflagration-to-detonation transition via the distributed photo ignition of carbon nanotubes suspended in fuel/oxidizer mixtures. Combustion and Flame, 2012, 159, 1314-1320.	2.8	27
53	Temperature measurement using ultraviolet laser absorption of carbon dioxide behind shock waves. Applied Optics, 2005, 44, 6599.	2.1	24
54	An experimental study of the spray ignition of alkanes. Fuel, 2016, 185, 381-393.	3.4	23

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55	Iron Nanoparticle Additives as Burning Rate Enhancers in AP/HTPB Composite Propellants. Propellants, Explosives, Pyrotechnics, 2015, 40, 253-259.	1.0	22
56	Ultraviolet absorption cross-sections of hot carbon dioxide. Chemical Physics Letters, 2004, 399, 490-495.	1.2	18
57	Carbon Dioxide Thermal Decomposition: Observation of Incubation. Zeitschrift Fur Physikalische Chemie, 2005, 219, 555-567.	1.4	18
58	Comparative Study of the Ignition of 1-Decene, <i>trans</i>-5-Decene, and <i>n</i>-Decane: Constant-Volume Spray and Shock-Tube Experiments. Energy & Fuels, 2017, 31, 6493-6500.	2.5	17
59	Time-resolved carbon monoxide measurements during the low- to intermediate-temperature oxidation of n-heptane, n-decane, and n-dodecane. Combustion and Flame, 2016, 173, 402-410.	2.8	16
60	Towards realization of quantitative atmospheric and industrial gas sensing using THz wave electronics. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	16
61	Passivation and Stabilization of Aluminum Nanoparticles for Energetic Materials. Journal of Nanomaterials, 2015, 2015, 1-12.	1.5	15
62	Prospects for Biofuels: A Review. Journal of Thermal Science and Engineering Applications, 2013, 5, .	0.8	14
63	Global Reduced Model for Conventional and Alternative Jet and Diesel Fuel Autoignition. Energy & Fuels, 2014, 28, 2795-2801.	2.5	14
64	VOC Gas Sensing Via Microelectronics-Based Absorption Spectroscopy at 220â€“330ÂGHz. Applied Physics B: Lasers and Optics, 2020, 126, 1.	1.1	14
65	Ignition characterization of F-76 and algae-derived HRD-76 at elevated temperatures and pressures. Combustion and Flame, 2017, 181, 157-163.	2.8	12
66	Experimental Study of the High-Temperature Autoignition of Tetralin. Energy & Fuels, 2013, 27, 5483-5487.	2.5	11
67	Highâ€Fidelity Microstructural Characterization and Performance Modeling of Aluminized Composite Propellant. Propellants, Explosives, Pyrotechnics, 2017, 42, 1387-1395.	1.0	11
68	Spray ignition experiments for alkylbenzenes and alkylbenzene/n-alkane blends. Fuel, 2017, 195, 49-58.	3.4	10
69	Constant volume spray ignition of C9-C10 biodiesel surrogates: Methyl decanoate, ethyl nonanoate, and methyl decenoates. Fuel, 2018, 224, 219-225.	3.4	10
70	A 220â€“300 GHz Twin-FET Detector for Rotational Spectroscopy of Gas Mixtures. IEEE Sensors Journal, 2021, 21, 4553-4562.	2.4	9
71	Evaluation of machine learning methods for classification of rotational absorption spectra for gases in the 220â€“330ÂGHz range. Applied Physics B: Lasers and Optics, 2021, 127, 1.	1.1	9
72	Sound generation by water drop impact on surfaces. Experimental Thermal and Fluid Science, 2020, 117, 110138.	1.5	8

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73	Modeling nanofluid sessile drop evaporation. Heat and Mass Transfer, 2017, 53, 2341-2349.	1.2	6
74	Shock tube ignition delay time measurements for methyl propanoate and methyl acrylate: Influence of saturation on small methyl ester highâ€temperature reactivity. International Journal of Chemical Kinetics, 2020, 52, 712-722.	1.0	5
75	Gas sensing for industrial relevant nitrogen-containing compounds using a microelectronics-based absorption spectrometer in the 220â€“330ÂGHz frequency range. Sensors and Actuators B: Chemical, 2022, 367, 132030.	4.0	5
76	Detection of Volatile Organic Compounds using a Single Transistor Terahertz Detector Implemented in Standard BiCMOS Technology. , 2019, , .		4
77	An Experimentally Validated Surrogate Fuel for the Combustion Kinetics of S-8, a Synthetic Paraffinic Jet Aviation Fuel. , 2012, , .		3
78	Terahertz-Wave Absorption Gas Sensing for Dimethyl Sulfoxide. Applied Sciences (Switzerland), 2022, 12, 5729.	1.3	3
79	Nanofluid Pendant Droplet Evaporation. , 2013, , .		1
80	Lateral jetting during off-center drop collisions on substrates. International Journal of Heat and Mass Transfer, 2018, 122, 740-748.	2.5	1
81	Towards Industrial THz Wave Electronic Gas Sensing and Spectroscopy. , 2019, , .		1
82	All Electronic THz Wave Absorption Spectroscopy of Volatile Organic Compounds Between 220â€“330 GHz. , 2020, , .		1
83	The Shock Tube Autoignition of Biodiesels and Biodiesel Components. , 2013, , .		0
84	Diesel Engine Simulations and Experiments: Fuel Variability Effects on Ignition. , 2014, , .		0
85	Shock Tube Autoignition Studies for Conventional and Alternative Transportation Fuel Components. , 2012, , .		0
86	Autoignition Variation of Biodiesel Surrogates: Influence of Saturation. , 2013, , .		0