Kaoru Maruta

List of Publications by Year
in descending order

82 papers	4,144 citations	159585 30 h-index	114465 63 g-index
82 all docs	82 docs citations	82 times ranked	1318 citing authors

#	Article	IF	Citations
1	Microscale combustion: Technology development and fundamental research. Progress in Energy and Combustion Science, 2011, 37, 669-715.	31.2	633
2	Characteristics of combustion in a narrow channel with a temperature gradient. Proceedings of the Combustion Institute, 2005, 30, 2429-2436.	3.9	441
3	On the extinction limit and flammability limit of non-adiabatic stretched methaneâ€“air premixed flames. Journal of Fluid Mechanics, 1997, 342, 315-334.	3.4	276
4	Flame stabilization and emission of small Swiss-roll combustors as heaters. Combustion and Flame, 2005, 141, 229-240.	5.2	253
5	Experimental and numerical investigation on combustion characteristics of premixed hydrogen/air flame in a micro-combustor with a bluff body. International Journal of Hydrogen Energy, 2012, 37, 19190-19197.	7.1	195
6	Extinction of low-stretched diffusion flame in microgravity. Combustion and Flame, 1998, 112, 181-187.	5.2	118
7	Turbulence measurements and observations of turbulent premixed flames at elevated pressures up to 3.0 MPa. Combustion and Flame, 1997, 108, 104-117.	5.2	114
8	A numerical study on propagation of premixed flames in small tubes. Combustion and Flame, 2006, 146, 283-301.	5.2	107
9	Interactions between heat transfer, flow field and flame stabilization in a micro-combustor with a bluff body. International Journal of Heat and Mass Transfer, 2013, 66, 72-79.	4.8	100
10	Stabilized three-stage oxidation of DME/air mixture in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2010, 157, 1572-1580.	5.2	97
11	Stabilized three-stage oxidation of gaseous n-heptane/air mixture in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2011, 33, 3259-3266.	3.9	97
12	Radiation extinction limit of counterflow premixed lean methane-air flames. Combustion and Flame, 1997, 109, 639-646.	5.2	94
13	Effects of the Lewis number and radiative heat loss on the bifurcation and extinction of CH4/O2-N2-He flames. Journal of Fluid Mechanics, 1999, 379, 165-190.	3.4	81
14	Lower limit of weak flame in a heated channel. Proceedings of the Combustion Institute, 2009, 32, 3075-3081.	3.9	78
15	The effect of the blockage ratio on the blow-off limit of a hydrogen/air flame in a planar micro-combustor with a bluff body. International Journal of Hydrogen Energy, 2013, 38, 11438-11445.	7.1	77
16	Bifurcations and negative propagation speeds of methane/air premixed flames with repetitive extinction and ignition in a heated microchannel. Combustion and Flame, 2012, 159, 1631-1643.	5.2	69
17	Effect of radical quenching on CH4/air flames in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2015, 35, 3389-3396.	3.9	69
18	Experimental study on methane-air premixed flame extinction at small stretch rates in microgravity. Proceedings of the Combustion Institute, 1996, 26, 1283-1289.	0.3	63

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19	Study on combustion and ignition characteristics of natural gas components in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2014, 161, 37-48.	5.2	63
20	Study on octane number dependence of PRF/air weak flames at 1â€“5 atm in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2012, 159, 959-967.	5.2	62
21	Experimental study on flame pattern formation and combustion completeness in a radial microchannel. Journal of Micromechanics and Microengineering, 2007, 17, 2398-2406.	2.6	52
22	Filtration Combustion of Methane in High-Porosity Micro-Fibrous Media. Combustion Science and Technology, 2009, 181, 654-669.	2.3	47
23	Study on cetane number dependence of diesel surrogates/air weak flames in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2013, 34, 3411-3417.	3.9	46
24	Characteristics of n-heptane and toluene weak flames in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2013, 34, 3419-3426.	3.9	44
25	Study on stretch extinction limits of CH4/CO2 versus high temperature O2/CO2 counterflow non-premixed flames. Combustion and Flame, 2014, 161, 1526-1536.	5.2	41
26	Characteristics of n-butane weak flames at elevated pressures in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2015, 35, 3405-3412.	3.9	39
27	Study on combustion and ignition characteristics of ethylene, propylene, 1-butene and 1-pentene in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2016, 163, 209-219.	5.2	36
28	Flammability limits of stationary flames in tubes at low pressure. Combustion and Flame, 2005, 141, 78-88.	5.2	35
29	Experimental investigations on the combustion behavior of methaneâ€“air mixtures in a micro-scale radial combustor configuration. Journal of Micromechanics and Microengineering, 2007, 17, 900-908.	2.6	34
30	Soot formation characteristics and PAH formation process in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2014, 161, 582-591.	5.2	31
31	Flame Bifurcations and Flammable Regions of Radiative Counterflow Premixed Flames with General Lewis Numbers. Combustion and Flame, 1998, 113, 603-614.	5.2	29
32	Study on sooting behavior of premixed C1â€“C4 n-alkanes/air flames using a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2016, 174, 100-110.	5.2	28
33	Stabilization of pulverized coal combustion by plasma assist. Thin Solid Films, 2002, 407, 186-191.	1.8	25
34	Study on flame responses and ignition characteristics of CH 4 /O 2 /CO 2 mixture in a micro flow reactor with a controlled temperature profile. Applied Thermal Engineering, 2015, 84, 360-367.	6.0	24
35	Study on pressure dependences of ethanol oxidation by separated weak flames in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2013, 34, 3435-3443.	3.9	23
36	Microcombustion for micro-tubular flame-assisted fuel cell power and heat cogeneration. Journal of Power Sources, 2019, 413, 191-197.	7.8	23

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37	Experimental investigation on flame pattern formations of DMEâ€“air mixtures in a radial microchannel. Combustion and Flame, 2010, 157, 1637-1642.	5.2	22
38	Effects of CO-to-H2 ratio and diluents on ignition properties of syngas examined by weak flames in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2016, 172, 94-104.	5.2	22
39	Study on oxidation and pyrolysis of carbonate esters using a micro flow reactor with a controlled temperature profile. Part I: Reactivities of dimethyl carbonate, ethyl methyl carbonate and diethyl carbonate. Combustion and Flame, 2022, 237, 111810.	5.2	21
40	Effects of mixture composition on oxidation and reactivity of DME/NH3/air mixtures examined by a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2022, 238, 111911.	5.2	20
41	Experimental investigation of flame pattern transitions in a heated radial micro-channel. Applied Thermal Engineering, 2012, 47, 111-118.	6.0	19
42	Ultra-lean combustion characteristics of premixed methane flames in a micro flow reactor with a controlled temperature profile. Proceedings of the Combustion Institute, 2017, 36, 4227-4233.	3.9	18
43	Extinction characteristics of CH4/O2/Xe radiative counterflow planar premixed flames and their transition to ball-like flames. Combustion and Flame, 2013, 160, 1235-1241.	5.2	17
44	Near-lean limit combustion regimes of low-Lewis-number stretched premixed flames. Combustion and Flame, 2015, 162, 1712-1718.	5.2	17
45	Cellular and sporadic flame regimes of low-Lewis-number stretched premixed flames. Proceedings of the Combustion Institute, 2013, 34, 981-988.	3.9	16
46	Analysis of kinetic models for rich to ultra-rich premixed CH4/air weak flames using a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2019, 206, 68-82.	5.2	16
47	Investigation of microcombustion reforming of ethane/air and micro-Tubular Solid Oxide Fuel Cells. Journal of Power Sources, 2020, 450, 227606.	7.8	16
48	Study on oxidation and pyrolysis of carbonate esters using a micro flow reactor with a controlled temperature profile. Part II: Chemical kinetic modeling of ethyl methyl carbonate. Combustion and Flame, 2022, 238, 111878.	5.2	16
49	Flame front configuration of turbulent premixed flames. Combustion and Flame, 1998, 112, 293-301.	5.2	15
50	Investigation of the chemical and dilution effects of major EGR constituents on the reactivity of PRF by weak flames in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2019, 209, 13-26.	5.2	15
51	Multi-stage oxidation of a CH2F2/air mixture examined by weak flames in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2019, 201, 140-147.	5.2	15
52	Local Reaction Zone Configuration of High Intensity Turbulent Premixed Flames. Combustion Science and Technology, 1993, 90, 267-280.	2.3	14
53	Determination of Burning Velocity and Flammability Limit of Methane/Air Mixture Using Counterflow Flames. Japanese Journal of Applied Physics, 1999, 38, 961-967.	1.5	14
54	Extinction Characteristics of Premixed Flame in Heated Microchannel at Reduced Pressures. Combustion Science and Technology, 2008, 180, 2029-2045.	2.3	14

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55	OH and CH₂O Laser-Induced Fluorescence Measurements for Hydrogen Flames and Methane, <i>n</i>-Butane, and Dimethyl Ether Weak Flames in a Micro Flow Reactor with a Controlled Temperature Profile. Energy & Fuels, 2017, 31, 2298-2307.	5.1	14
56	Impact of low concentration hydrocarbons in natural gas on thermal partial oxidation in a micro-flow reactor for solid oxide fuel cell applications. Journal of Power Sources, 2020, 477, 229007.	7.8	13
57	A lean flammability limit of polymethylmethacrylate particle-cloud in microgravity. Combustion and Flame, 1999, 118, 359-369.	5.2	11
58	Electrostatic probe measurement in an industrial furnace for high-temperature air conditions. Combustion and Flame, 2007, 150, 369-379.	5.2	11
59	Two-dimensional laboratory-scale DNS for knocking experiment using n-heptane at engine-like condition. Combustion and Flame, 2021, 223, 330-336.	5.2	11
60	Heat diffusion characteristics of magnetite nanoparticles dispersed hydro-gel in alternating magnetic field. Journal of Magnetism and Magnetic Materials, 2009, 321, 3483-3487.	2.3	10
61	Study on the combustion limit, near-limit extinction boundary, and flame regimes of low-Lewis-number CH4/O2/CO2 counterflow flames under microgravity. Combustion and Flame, 2016, 172, 13-19.	5.2	10
62	Experimental and numerical study of premixed flame penetration and propagation in multichannel system. Combustion Science and Technology, 2018, 190, 1023-1040.	2.3	10
63	Broken C-shaped extinction curve and near-limit flame behaviors of low Lewis number counterflow flames under microgravity. Combustion and Flame, 2018, 194, 343-351.	5.2	10
64	Diffusiveâ€“thermal oscillations of rich premixed hydrogenâ€“air flames in a microflow reactor. Combustion Theory and Modelling, 2016, 20, 313-327.	1.9	9
65	Initial-stage reaction of methane examined by optical measurements of weak flames in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2019, 206, 292-307.	5.2	9
66	Oxidation of a C2HF5/air mixture examined by weak flames in a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2020, 217, 12-20.	5.2	9
67	Thermal partial oxidation of n-butane in a micro-flow reactor and solid oxide fuel cell stability assessment. Energy Conversion and Management, 2022, 254, 115222.	9.2	9
68	Flammability limit of moderate- and low-stretched premixed flames stabilized in planar channel. Combustion and Flame, 2017, 185, 261-264.	5.2	8
69	A novel reactivity index for SI engine fuels by separated weak flames in a micro flow reactor with a controlled temperature profile. Fuel, 2019, 245, 429-437.	6.4	7
70	2D computations of FREI with cool flames for n-heptane/air mixture. Proceedings of the Combustion Institute, 2021, 38, 2247-2255.	3.9	7
71	Study on Products from Fuel-rich Methane Combustion near Sooting Limit Temperature Region and Importance of Methyl Radicals for the Formation of First Aromatic Rings. Combustion Science and Technology, 2022, 194, 832-849.	2.3	6
72	Study on methane oxidation affected by dimethyl ether oxidation at low temperatures using a micro flow reactor with a controlled temperature profile. Combustion and Flame, 2021, 223, 320-329.	5.2	6

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73	Effects of n-butanol addition on sooting tendency and formation of C1 â€“C2 primary intermediates of n-heptane/air mixture in a micro flow reactor with a controlled temperature profile. Combustion Science and Technology, 2018, 190, 2066-2081.	2.3	5
74	Dynamics of ball-like flames in extremely low-speed counterflow field in near-lean limit low-Lewis number mixture. Proceedings of the Combustion Institute, 2021, 38, 1965-1972.	3.9	5
75	Study of high-temperature oxygen combustion (HiTOx) and its heating performance using a laboratory-scale test furnace. Applied Thermal Engineering, 2021, 194, 117077.	6.0	4
76	Microgravity Ignition Experiment on a Droplet Array in High-Temperature Low-Speed Airflow. Combustion Science and Technology, 2000, 153, 169-178.	2.3	3
77	Effects of blending ratios on the reactivities of CH2F2/C2HF5 refrigerant blends. Proceedings of the Combustion Institute, 2021, 38, 2487-2495.	3.9	3
78	Reactivity of CO/H₂/CH₄/Air Mixtures Derived from In-Cylinder Fuel Reformation Examined by a Micro Flow Reactor with a Controlled Temperature Profile. Combustion Science and Technology, 2021, 193, 266-279.	2.3	3
79	Efficiency of Microcombustion System with Thermoelectric Generator Combined with Countercurrent Heat Exchanger. Key Engineering Materials, 0, 685, 422-426.	0.4	0
80	Efficiency of the Small-Sized System with Thermo-Electrical Conversion of the Heat from Gas Combustion. Key Engineering Materials, 0, 685, 345-349.	0.4	0
81	Modelling in Ecology, Epidemiology and Evolution. Mathematical Modelling of Natural Phenomena, 2018, 13, E2.	2.4	0
82	Fundamental combustion characteristics of lifted flames in high-temperature oxygen combustion condition. The Proceedings of the Thermal Engineering Conference, 2016, 2016, E213.	0.0	0