

John Mantzaras

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Fuel-rich hetero-/homogeneous combustion of C ₃ H ₈ /O ₂ /N ₂ mixtures over rhodium. Proceedings of the Combustion Institute, 2023, 39, 5601-5610.	3.9	1
2	High-pressure kinetic interactions between CO and H ₂ during syngas catalytic combustion on PdO. Proceedings of the Combustion Institute, 2022, , .	3.9	2
3	Heterogeneous and homogeneous combustion of fuel-lean C ₃ H ₈ /O ₂ /N ₂ mixtures over rhodium at pressures up to 6 bar. Proceedings of the Combustion Institute, 2021, 38, 6473-6482.	3.9	9
4	Homogeneous ignition of H ₂ /CO/O ₂ /N ₂ mixtures over palladium at pressures up to 8â€ bar. Proceedings of the Combustion Institute, 2021, 38, 6583-6591.	3.9	8
5	An experimental and numerical investigation of the catalytic-rich/gaseous-lean combustion of H ₂ /CO/air mixtures at 8â€ bar. Proceedings of the Combustion Institute, 2021, 38, 5443-5451.	3.9	8
6	Lattice Boltzmann model with generalized wall boundary conditions for arbitrary catalytic reactivity. Physical Review E, 2021, 103, 063303.	2.1	4
7	Insights on the interaction of serpentine channels and gas diffusion layer in an operating polymer electrolyte fuel cell: Numerical modeling across scales. International Journal of Heat and Mass Transfer, 2021, 181, 121859.	4.8	7
8	Kinetic modeling of total oxidation of propane over rhodium. Combustion and Flame, 2021, , 111847.	5.2	5
9	Kinetic interactions between H ₂ and CO in catalytic oxidation over PdO. Combustion and Flame, 2020, 211, 270-280.	5.2	16
10	Coupled reaction mechanism reduction for the hetero-/homogeneous combustion of syngas over platinum. Combustion and Flame, 2020, 214, 37-46.	5.2	7
11	Direct numerical simulations of turbulent catalytic and gas-phase combustion of H ₂ /air over Pt at practically-relevant Reynolds numbers. Proceedings of the Combustion Institute, 2019, 37, 5489-5497.	3.9	8
12	Hetero-/homogeneous combustion of fuel-lean CH ₄ /O ₂ /N ₂ mixtures over PdO at elevated pressures. Proceedings of the Combustion Institute, 2019, 37, 5465-5472.	3.9	19
13	H ₂ and CO heterogeneous kinetic coupling during combustion of H ₂ /CO/O ₂ /N ₂ mixtures over rhodium. Combustion and Flame, 2019, 202, 292-302.	5.2	21
14	Progress in non-intrusive laser-based measurements of gas-phase thermoscalars and supporting modeling near catalytic interfaces. Progress in Energy and Combustion Science, 2019, 70, 169-211.	31.2	47
15	A pore-level direct numerical investigation of water evaporation characteristics under air and hydrogen in the gas diffusion layers of polymer electrolyte fuel cells. International Journal of Heat and Mass Transfer, 2019, 129, 1250-1262.	4.8	18
16	Direct numerical simulation of turbulent channel-flow catalytic combustion: Effects of Reynolds number and catalytic reactivity. Combustion and Flame, 2018, 187, 52-66.	5.2	10
17	Hetero-/homogeneous chemistry interactions and flame formation during methane catalytic partial oxidation in rhodium-coated channels. Combustion and Flame, 2018, 198, 320-333.	5.2	5
18	Numerical Modeling of Hydroperoxyl-Mediated Oxidative Dehydrogenation of Formic Acid under SCR-Relevant Conditions. Industrial & Engineering Chemistry Research, 2018, 57, 10206-10215.	3.7	0

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19	Three-dimensional direct numerical simulations of turbulent fuel-lean H ₂ /air hetero-/homogeneous combustion over Pt with detailed chemistry. Proceedings of the Combustion Institute, 2017, 36, 4355-4363.	3.9	10
20	Homogeneous ignition during fuel-rich H ₂ /O ₂ /N ₂ combustion in platinum-coated channels at elevated pressures. Combustion and Flame, 2017, 180, 184-195.	5.2	19
21	Impact of Gaseous Chemistry in H ₂ /O ₂ /N ₂ Combustion over Platinum at Fuel-Lean Stoichiometries and Pressures of 1.0-3.5 bar. Energy & Fuels, 2017, 31, 11448-11459.	5.1	10
22	Experimental and pore-level numerical investigation of water evaporation in gas diffusion layers of polymer electrolyte fuel cells. International Journal of Heat and Mass Transfer, 2017, 115, 238-249.	4.8	42
23	A comparative experimental and numerical investigation of the heterogeneous and homogeneous combustion characteristics of fuel-rich methane mixtures over rhodium and platinum. Proceedings of the Combustion Institute, 2017, 36, 4313-4320.	3.9	29
24	Hetero-/homogeneous combustion of fuel-lean methane/oxygen/nitrogen mixtures over rhodium at pressures up to 12 bar. Proceedings of the Combustion Institute, 2017, 36, 4321-4328.	3.9	15
25	First line shape analysis and spectroscopic parameters for the $\hat{\nu}_{1/211}$ band of 12C ₂ H ₄ . Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 184, 297-307.	2.3	5
26	Combustion stability and hetero-/homogeneous chemistry interactions for fuel-lean hydrogen/air mixtures in platinum-coated microchannels. Combustion and Flame, 2016, 173, 370-386.	5.2	40
27	An experimental and numerical investigation of the combustion and heat transfer characteristics of hydrogen-fueled catalytic microreactors. Chemical Engineering Science, 2016, 141, 214-230.	3.8	45
28	Hetero-/homogeneous combustion of syngas mixtures over platinum at fuel-rich stoichiometries and pressures up to 14 bar. Proceedings of the Combustion Institute, 2015, 35, 2223-2231.	3.9	25
29	An experimental and numerical investigation of premixed syngas combustion dynamics in mesoscale channels with controlled wall temperature profiles. Proceedings of the Combustion Institute, 2015, 35, 3429-3437.	3.9	30
30	Transient simulation of the combustion of fuel-lean hydrogen/air mixtures in platinum-coated channels. Combustion Theory and Modelling, 2015, 19, 514-548.	1.9	18
31	Catalytic Combustion of Hydrogen, Challenges, and Opportunities. Advances in Chemical Engineering, 2014, , 97-157.	0.9	10
32	Detailed transient numerical simulation of H ₂ /air hetero-/homogeneous combustion in platinum-coated channels with conjugate heat transfer. Combustion and Flame, 2014, 161, 2692-2707.	5.2	28
33	An analytical and numerical investigation of hetero-/homogeneous combustion with deficient reactants having larger than unity Lewis numbers. Combustion and Flame, 2014, 161, 1911-1922.	5.2	27
34	Kinetic interactions between hydrogen and carbon monoxide oxidation over platinum. Combustion and Flame, 2014, 161, 332-346.	5.2	47
35	Thermal multicomponent lattice Boltzmann model for catalytic reactive flows. Physical Review E, 2014, 89, 063310.	2.1	29
36	Flame dynamics in lean premixed /air combustion in a mesoscale channel. Combustion and Flame, 2014, 161, 1268-1281.	5.2	26

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37	Hetero-/homogeneous combustion of ethane/air mixtures over platinum at pressures up to 14 bar. Proceedings of the Combustion Institute, 2013, 34, 2279-2287.	3.9	22
38	CH ₄ combustion cycles at Pd/Al ₂ O ₃ – important role of support and oxygen access. Physical Chemistry Chemical Physics, 2013, 15, 11368.	2.8	19
39	Effects of hydrogen addition on the catalytic oxidation of carbon monoxide over platinum at power generation relevant temperatures. Proceedings of the Combustion Institute, 2013, 34, 3343-3350.	3.9	21
40	Hetero-/homogeneous combustion of hydrogen/air mixtures over platinum: Fuel-lean versus fuel-rich combustion modes. International Journal of Hydrogen Energy, 2013, 38, 10654-10670.	7.1	39
41	An experimental and numerical investigation of the hetero-/homogeneous combustion of fuel-rich hydrogen/air mixtures over platinum. Proceedings of the Combustion Institute, 2013, 34, 2269-2277.	3.9	35
42	New Directions in Advanced Modeling and in Situ Measurements Near Reacting Surfaces. Flow, Turbulence and Combustion, 2013, 90, 681-707.	2.6	5
43	Homogeneous combustion of fuel-lean syngas mixtures over platinum at elevated pressures and preheats. Combustion and Flame, 2013, 160, 155-169.	5.2	38
44	Study of a Rich/Lean Staged Combustion Concept for Hydrogen at Gas Turbine Relevant Conditions. , 2013, , .		8
45	Lattice Boltzmann model for thermal binary-mixture gas flows. Physical Review E, 2013, 87, 053304.	2.1	13
46	Saturation Dependent Effective Transport Properties of PEFC Gas Diffusion Layers. Journal of the Electrochemical Society, 2012, 159, F536-F544.	2.9	113
47	Chaotic dynamics in premixed hydrogen/air channel flow combustion. Combustion Theory and Modelling, 2012, 16, 275-299.	1.9	38
48	DFT studies of oxidation routes for Pd ₉ clusters supported on γ -alumina. Physical Chemistry Chemical Physics, 2012, 14, 10243.	2.8	18
49	Numerical Investigation on the Hydrogen-Assisted Start-Up of Methane-Fueled, Catalytic Microreactors. Flow, Turbulence and Combustion, 2012, 89, 215-230.	2.6	19
50	Electronic structure and oxygen vacancies in PdO and ZnO: validation of DFT models. Physical Chemistry Chemical Physics, 2011, 13, 15947.	2.8	35
51	Experimental and numerical investigation of hetero-/homogeneous combustion of CO/H ₂ /O ₂ /N ₂ mixtures over platinum at pressures up to 5 bar. Proceedings of the Combustion Institute, 2011, 33, 1827-1835.	3.9	37
52	Homogeneous combustion of fuel-lean H ₂ /O ₂ /N ₂ mixtures over platinum at elevated pressures and preheats. Combustion and Flame, 2011, 158, 1491-1506.	5.2	57
53	Stability of hetero-/homogeneous combustion in propane- and methane-fueled catalytic microreactors: Channel confinement and molecular transport effects. Proceedings of the Combustion Institute, 2011, 33, 3241-3249.	3.9	66
54	Flame dynamics in catalytic and non-catalytic mesoscale microreactors. Catalysis Today, 2010, 155, 123-130.	4.4	47

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55	Experimental and numerical investigation of a propane-fueled, catalytic mesoscale combustor. Catalysis Today, 2010, 155, 108-115.	4.4	13
56	Numerical investigation on the start-up of methane-fueled catalytic microreactors. Combustion and Flame, 2010, 157, 1400-1413.	5.2	55
57	Effects of hydrogen preconversion on the homogeneous ignition of fuel-lean H ₂ /O ₂ /N ₂ /CO ₂ mixtures over platinum at moderate pressures. Combustion and Flame, 2010, 157, 1942-1958.	5.2	40
58	Improvement of Gas Turbine Combustion Reactivity Under Flue Gas Recirculation Condition With In-Situ Hydrogen Addition. , 2009, , .		10
59	Hetero-/homogeneous combustion of hydrogen/air mixtures over platinum at pressures up to 10 bar. Proceedings of the Combustion Institute, 2009, 32, 1937-1945.	3.9	56
60	Dynamics of premixed flames in a narrow channel with a step-wise wall temperature. Combustion and Flame, 2009, 156, 2190-2200.	5.2	90
61	Suppression of combustion instabilities of premixed hydrogen/air flames in microchannels using heterogeneous reactions. Proceedings of the Combustion Institute, 2009, 32, 3051-3058.	3.9	99
62	Experimental and numerical investigation of the hetero-/homogeneous combustion of lean propane/air mixtures over platinum. Proceedings of the Combustion Institute, 2009, 32, 1947-1955.	3.9	54
63	Dynamics of premixed hydrogen/air flames in mesoscale channels. Combustion and Flame, 2008, 155, 2-20.	5.2	109
64	Dynamics of premixed hydrogen/air flames in microchannels. Combustion and Flame, 2008, 152, 433-450.	5.2	187
65	Catalytic Combustion of Syngas. Combustion Science and Technology, 2008, 180, 1137-1168.	2.3	89
66	Numerical Investigation of Performance Characteristics in a Propane-Fueled Mesoscale Catalytic Reactor. , 2007, , 551.		0
67	Ignition and Extinction in Catalytic Partial Oxidation of Methane-Oxygen Mixtures with Large H ₂ O and CO ₂ Dilution. Combustion Science and Technology, 2007, 180, 89-126.	2.3	44
68	EFFECTS OF H ₂ O AND CO ₂ DILUTION ON THE CATALYTIC AND GAS-PHASE COMBUSTION OF METHANE OVER PLATINUM AT ELEVATED PRESSURES. Combustion Science and Technology, 2007, 179, 553-600.	2.3	33
69	Experimental and numerical investigation of supported rhodium catalysts for partial oxidation of methane in exhaust gas diluted reaction mixtures. Chemical Engineering Science, 2007, 62, 3991-4011.	3.8	38
70	Hetero-/homogeneous combustion and stability maps in methane-fueled catalytic microreactors. Proceedings of the Combustion Institute, 2007, 31, 3309-3317.	3.9	132
71	Laser induced fluorescence of formaldehyde and Raman measurements of major species during partial catalytic oxidation of methane with large H ₂ O and CO ₂ dilution at pressures up to 10bar. Proceedings of the Combustion Institute, 2007, 31, 1973-1981.	3.9	49
72	Understanding and modeling of thermofluidic processes in catalytic combustion. Catalysis Today, 2006, 117, 394-406.	4.4	25

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73	Experimental and numerical investigation of the catalytic partial oxidation of CH_4 over platinum. <i>Combustion and Flame</i> , 2005, 140, 70-92.	3.8	68
74	Partial catalytic oxidation of methane to synthesis gas over rhodium: in situ Raman experiments and detailed simulations. <i>Proceedings of the Combustion Institute</i> , 2005, 30, 2509-2517.	3.9	49
75	Turbulent catalytically stabilized combustion of hydrogen/air mixtures in entry channel flows. <i>Combustion and Flame</i> , 2005, 140, 70-92.	5.2	305
76	Gas phase chemistry in catalytic combustion of methane/air mixtures over platinum at pressures of 1 to 16 bar. <i>Combustion and Flame</i> , 2005, 141, 448-468.	5.2	105
77	Homogeneous ignition of CH_4 /air and H_2O and CO_2 -diluted CH_4/O_2 mixtures over Pt; an experimental and numerical investigation at pressures up to 16bar. <i>Proceedings of the Combustion Institute</i> , 2005, 30, 2519-2527.	3.9	42
78	Staged Catalytic Combustion Method for the Advanced Zero Emissions Gas Turbine Power Plant. , 2004, , 705.		15
79	High-pressure catalytic combustion of methane over platinum: In situ experiments and detailed numerical predictions. <i>Combustion and Flame</i> , 2004, 136, 217-240.	5.2	388
80	Fuel Cell Modeling and Simulations. <i>Chimia</i> , 2004, 58, 857-868.	0.6	17
81	High-pressure experiments and modeling of methane/air catalytic combustion for power-generation applications. <i>Catalysis Today</i> , 2003, 83, 157-170.	4.4	82
82	Homogeneous ignition in high-pressure combustion of methane/air over platinum: Comparison of measurements and detailed numerical predictions. <i>Proceedings of the Combustion Institute</i> , 2002, 29, 1021-1029.	3.9	50
83	An experimental and numerical investigation of turbulent catalytically stabilized channel flow combustion of hydrogen/air mixtures over platinum. <i>Proceedings of the Combustion Institute</i> , 2002, 29, 1031-1038.	3.9	44
84	An experimental and numerical investigation of homogeneous ignition in catalytically stabilized combustion of hydrogen/air mixtures over platinum. <i>Combustion and Flame</i> , 2002, 128, 340-368.	5.2	148
85	Effects of finite rate heterogeneous kinetics on homogeneous ignition in catalytically stabilized channel flow combustion. <i>Combustion and Flame</i> , 2002, 130, 336-351.	5.2	58
86	Numerical modelling of turbulent catalytically stabilized channel flow combustion. <i>Catalysis Today</i> , 2000, 59, 3-17.	4.4	39
87	Catalytic combustion of methane/air mixtures over platinum: Homogeneous ignition distances in channel flow configurations. <i>Proceedings of the Combustion Institute</i> , 2000, 28, 1349-1357.	3.9	43
88	Two-dimensional modelling for catalytically stabilized combustion of a lean methane-air mixture with elementary homogeneous and heterogeneous chemical reactions. <i>Combustion and Flame</i> , 1999, 116, 243-258.	5.2	104
89	An asymptotic and numerical investigation of homogeneous ignition in catalytically stabilized channel flow combustion. <i>Combustion and Flame</i> , 1999, 119, 455-472.	5.2	47
90	Homogeneous ignition of methane-air mixtures over platinum: Comparison of measurements and detailed numerical predictions. <i>Proceedings of the Combustion Institute</i> , 1998, 27, 2275-2282.	0.3	72

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91	Coherent Anti-Stokes Raman Spectroscopy measurements of temperature fluctuations in turbulent natural gas-fueled piloted jet diffusion flames. Combustion and Flame, 1997, 110, 39-53.	5.2	6
92	Geometrical Properties of Turbulent Premixed Flames: Comparison Between Computed and Measured Quantities. Combustion Science and Technology, 1992, 86, 135-162.	2.3	19
93	Experimental and numerical investigation of fuel-lean H ₂ /CO/air and H ₂ /CH ₄ /air catalytic microreactors. Combustion Science and Technology, 0, , .	2.3	2