Moshe Matalon

List of Publications by Year
in descending order

93	3,604	136950	138484
papers	citations	32 h-index	58 g-index

95	95	95	1044
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Outwardly growing premixed flames in turbulent media. Combustion and Flame, 2022, 239, 111816.	5.2	2
2	Isolating effects of Darrieusâ€“Landau instability on the morphology and propagation of turbulent premixed flames. Journal of Fluid Mechanics, 2022, 940, .	3.4	2
3	Numerical methodology for spontaneous wrinkling of centrally ignited premixed flames â€“ linear theory. Combustion Theory and Modelling, 2021, 25, 940-967.	1.9	2
4	Influence of heat-loss on compressibility-driven flames propagating from the closed end of a long narrow duct. Combustion and Flame, 2020, 214, 1-13.	5.2	6
5	The Speed and Temperature of an Edge Flame Stabilized in a Mixing Layer: Dependence on Fuel Properties and Local Mixture Fraction Gradient. Combustion Science and Technology, 2020, 192, 1274-1291.	2.3	2
6	Edge flames in mixing layers: Effects of heat recirculation through thermally active splitter plates. Combustion and Flame, 2020, 217, 262-273.	5.2	6
7	Propagation of premixed flames in the presence of Darrieusâ€“Landau and thermal diffusive instabilities. Combustion and Flame, 2020, 216, 256-270.	5.2	48
8	Morphology of wrinkles along the surface of turbulent Bunsen flames â€“ Their amplification and advection due to the Darrieusâ€“Landau instability. Proceedings of the Combustion Institute, 2019, 37, 2335-2343.	3.9	10
9	Characterization of heat recirculation effects on the stabilization of edge flames in the near-wake of a mixing layer. Proceedings of the Combustion Institute, 2019, 37, 1799-1806.	3.9	6
10	Consumption and displacement speeds of stretched premixed flames - Theory and simulations. Combustion and Flame, 2019, 208, 164-181.	5.2	20
11	The Ramifications of the Darrieus-Landau Instability in Turbulent Premixed Flames. , 2019, , .		0
12	The Darrieusâ€“Landau instability of premixed flames. Fluid Dynamics Research, 2018, 50, 051412.	1.3	43
13	Nonlinear development of hydrodynamically-unstable flames in three-dimensional laminar flows. Combustion and Flame, 2018, 195, 128-139.	5.2	15
14	Counterflow diffusion flames: effects of thermal expansion and non-unity Lewis numbers. Combustion Theory and Modelling, 2018, 22, 585-612.	1.9	1
15	Critical conditions for flame acceleration in long adiabatic channels closed at their ignition end. Proceedings of the Combustion Institute, 2017, 36, 1549-1557.	3.9	7
16	Modeling reaction fronts of separated condensed phase reactants. AIP Conference Proceedings, 2017, , .	0.4	1
17	Propagation speed and stability of spherically expanding hydrogen/air flames: Experimental study and asymptotics. Proceedings of the Combustion Institute, 2017, 36, 1531-1538.	3.9	64
18	Effects of gas compressibility on the dynamics of premixed flames in long narrow adiabatic channels. Combustion Theory and Modelling, 2016, 20, 1046-1067.	1.9	18

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19	Structure and dynamics of edge flames in the near wake of unequal merging shear flows. Combustion Theory and Modelling, 2016, 20, 258-295.	1.9	10
20	The Dynamics of Premixed Flames in Long Narrow Channels. , 2016, , .		1
21	Electric field effects in the presence of chemi-ionization on droplet burning. Combustion and Flame, 2016, 164, 99-110.	5.2	13
22	Effect of folds and pockets on the topology and propagation of premixed turbulent flames. Combustion and Flame, 2015, 162, 2758-2777.	5.2	57
23	Diffusion flames in condensed-phase energetic materials: Application to Titaniumâ€“Boron combustion. Combustion and Flame, 2015, 162, 4486-4496.	5.2	4
24	Self-accelerating flames in long narrow open channels. Proceedings of the Combustion Institute, 2015, 35, 921-928.	3.9	37
25	Consistent definitions of â€œFlame Displacement Speedâ€•and â€œMarkstein Lengthâ€•for premixed flame propagation. Combustion and Flame, 2015, 162, 1249-1264.	5.2	112
26	Numerical study of unstable hydrogen/air flames: Shape and propagation speed. Proceedings of the Combustion Institute, 2015, 35, 1087-1095.	3.9	52
27	Flame acceleration in long narrow open channels. Proceedings of the Combustion Institute, 2013, 34, 865-872.	3.9	38
28	Hydrodynamic and thermodiffusive instability effects on the evolution of laminar planar lean premixed hydrogen flames. Journal of Fluid Mechanics, 2012, 700, 329-361.	3.4	72
29	The â€œturbulent flame speedâ€•of wrinkled premixed flames. Comptes Rendus - Mecanique, 2012, 340, 845-858.	2.1	16
30	Turbulent propagation of premixed flames in the presence of Darrieusâ€“Landau instability. Combustion Theory and Modelling, 2011, 15, 267-298.	1.9	65
31	Propagation of wrinkled turbulent flames in the context of hydrodynamic theory. Journal of Fluid Mechanics, 2011, 680, 225-264.	3.4	67
32	Modeling the Propagation of Premixed Flames in the Context of Hydrodynamic Theory. , 2011, , .		0
33	Analysis of an idealized heat-recirculating microcombustor. Proceedings of the Combustion Institute, 2011, 33, 3275-3284.	3.9	28
34	Edge flames stabilized in a non-premixed microcombustor. Combustion Theory and Modelling, 2011, 15, 911-932.	1.9	8
35	Higher order topological derivatives in elasticity. International Journal of Solids and Structures, 2010, 47, 3053-3066.	2.7	8
36	The effect of thermal expansion on diffusion flame instabilities. Journal of Fluid Mechanics, 2010, 647, 453-472.	3.4	15

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37	Edge Flames in Confined Mixing Layers. , 2010, , .		1
38	Flame dynamics. Proceedings of the Combustion Institute, 2009, 32, 57-82.	3.9	193
39	A multi-scale approach to the propagation of non-adiabatic premixed flames. Journal of Engineering Mathematics, 2009, 63, 309-326.	1.2	8
40	The porous-plug burner: Flame stabilization, onset of oscillation, and restabilization. Combustion and Flame, 2008, 153, 105-118.	5.2	39
41	Effect of Thermal Expansion on Edge-Flames. , 2008, , .		0
42	The effect of background turbulence on the propagation of large-scale flames. Physica Scripta, 2008, T132, 014038.	2.5	1
43	Review of "Combustion Physics". AIAA Journal, 2007, 45, 2813-2814.	2.6	0
44	Stabilization of an Edge-Flame in a Corner Region. , 2007, , .		0
45	Intrinsic Flame Instabilities in Premixed and Nonpremixed Combustion. Annual Review of Fluid Mechanics, 2007, 39, 163-191.	25.0	235
46	Stabilization and onset of oscillation of an edge-flame in the near-wake of a fuel injector. Proceedings of the Combustion Institute, 2007, 31, 909-917.	3.9	35
47	Dynamics of an edge-flame in the corner region of two mutually perpendicular streams. Proceedings of the Combustion Institute, 2007, 31, 929-938.	3.9	10
48	Diffusive-thermal instabilities of diffusion flames: onset of cells and oscillations. Combustion Theory and Modelling, 2006, 10, 701-725.	1.9	32
49	Nonlinear evolution of hydrodynamically unstable premixed flames. Journal of Fluid Mechanics, 2006, 554, 371.	3.4	50
50	Numerical simulation of flames as gas-dynamic discontinuities. Combustion Theory and Modelling, 2006, 10, 459-481.	1.9	35
51	Review of "Combustion of Two-Phase Reactive Media". AIAA Journal, 2005, 43, 444-445.	2.6	0
52	Pulsating Mode of Flame Propagation in Two-Dimensional Channels. AIAA Journal, 2005, 43, 1284-1292.	2.6	27
53	Dynamics of an edge flame in a mixing layer. Combustion and Flame, 2004, 139, 329-339.	5.2	56
54	Effects of differential diffusion on thin and thick flames propagating in channels. Combustion Theory and Modelling, 2004, 8, 41-64.	1.9	26

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55	A Diffusional-Thermal Theory of Near-Stoichiometric Premixed Flames. SIAM Journal on Applied Mathematics, 2004, 64, 1434-1456.	1.8	3
56	Hydrodynamic theory of premixed flames: effects of stoichiometry, variable transport coefficients and arbitrary reaction orders. Journal of Fluid Mechanics, 2003, 487, 179-210.	3.4	169
57	Marangoni instability at a contaminated liquidâ€“vapor interface of a burning thin film. Physics of Fluids, 2003, 15, 1122-1130.	4.0	9
58	The thick flame asymptotic limit and DamkÃ¶hler's hypothesis. Combustion Theory and Modelling, 2002, 6, 141-153.	1.9	25
59	Influence of conductive heat-losses on the propagation of premixed flames in channels. Combustion and Flame, 2002, 128, 321-339.	5.2	149
60	Evaporation and combustion of thin films of liquid fuels. Journal of Fluid Mechanics, 2001, 435, 351-376.	3.4	2
61	Flame propagation in Poiseuille flow under adiabatic conditions. Combustion and Flame, 2001, 124, 337-349.	5.2	72
62	The dependence of the Markstein length on stoichiometry. Combustion and Flame, 2001, 127, 1906-1913.	5.2	267
63	Premixed flames in closed cylindrical tubes. Combustion Theory and Modelling, 2001, 5, 463-483.	1.9	52
64	The onset of oscillations in diffusion flames. Combustion Theory and Modelling, 2001, 5, 217-240.	1.9	65
65	Premixed edge-flames under transverse enthalpy gradients. Combustion and Flame, 2000, 121, 107-121.	5.2	16
66	A general asymptotic theory of diffusion flames with application to cellular instability. Journal of Fluid Mechanics, 2000, 414, 105-144.	3.4	89
67	Stability of Pole Solutions for Planar Propagating Flames: II. Properties of Eigenvalues/Eigenfunctions and Implications to Stability. SIAM Journal on Applied Mathematics, 2000, 60, 703-728.	1.8	37
68	Stability of Pole Solutions for Planar Propagating Flames: I. Exact Eigenvalues and Eigenfunctions. SIAM Journal on Applied Mathematics, 2000, 60, 679-702.	1.8	58
69	On the oscillatory behavior of laminar spray diffusion flames: experiment and theory. Combustion and Flame, 1999, 117, 373-383.	5.2	25
70	Effects of stoichiometry on stretched premixed flames. Combustion and Flame, 1999, 119, 217-232.	5.2	23
71	The propagation of premixed flames in closed tubes. Journal of Fluid Mechanics, 1997, 336, 331-350.	3.4	100
72	Combustion of a Spinning Fuel Droplet. Combustion Science and Technology, 1994, 96, 345-367.	2.3	10

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73	The initial development of a tulip flame. Proceedings of the Combustion Institute, 1994, 25, 1407-1413.	0.3	38
74	Stability of a Premixed Flame in Stagnation-Point Flow Against General Disturbances. Combustion Science and Technology, 1993, 90, 385-403.	2.3	3
75	Thermocapillary motion in a spinning vaporizing droplet. Physics of Fluids A, Fluid Dynamics, 1993, 5, 1596-1601.	1.6	19
76	Onset and twoâ€dimensional patterns of convection with strongly temperatureâ€dependent viscosity. Physics of Fluids A, Fluid Dynamics, 1992, 4, 655-663.	1.6	12
77	Vaporization of a spinning fuel droplet. Proceedings of the Combustion Institute, 1992, 24, 1483-1491.	0.3	9
78	Lewis number effect on the propagation of premixed flames in closed tubes. Combustion and Flame, 1992, 91, 213-225.	5.2	16
79	On the Stability of Near-Equidiffusional Strained Premixed Flames. Combustion Science and Technology, 1990, 69, 85-97.	2.3	15
80	Propagation and extinction of a flame in a stagnation-point flow. Combustion and Flame, 1988, 73, 303-313.	5.2	24
81	A regularized KS equation describing the formation of cellular flames. Physics Letters, Section A: General, Atomic and Solid State Physics, 1988, 133, 23-28.	2.1	4
82	Hydrodynamic and diffusion effects on the stability of spherically expanding flames. Combustion and Flame, 1987, 67, 77-90.	5.2	275
83	Gas-phase transient diffusion in droplet vaporization and combustion. Combustion and Flame, 1985, 59, 213-215.	5.2	12
84	Gas-phase transient diffusion in droplet ignition. Combustion and Flame, 1985, 59, 43-51.	5.2	11
85	Expanding Flames May Delay the Transition to Cellular Structures. SIAM Journal on Applied Mathematics, 1984, 44, 734-744.	1.8	13
86	Gas-phase transient diffusion in droplet vaporization and combustion. Combustion and Flame, 1983, 50, 219-229.	5.2	21
87	On Flame Stretch. Combustion Science and Technology, 1983, 31, 169-181.	2.3	257
88	The Steady Burning of a Solid Particle. SIAM Journal on Applied Mathematics, 1982, 42, 787-803.	1.8	12
89	Weak Burning and Gas-Phase Ignition about a Carbon Particle in an Oxidizing Atmosphere. Combustion Science and Technology, 1981, 25, 43-48.	2.3	16
90	On the near-ignition stability of diffusion flames. International Journal of Engineering Science, 1980, 18, 1017-1026.	5.0	8

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91	Complete Burning and Extinction of a Carbon Particle in an Pxidizing Atmosphere. Combustion Science and Technology, 1980, 24, 115-127.	2.3	39
92	Chambered diffusion flames for different supply temperatures. Acta Astronautica, 1979, 6, 1377-1386.	3.2	14
93	The Asymptotic Derivation of Isola and S Responses for Chambered Diffusion Flames. SIAM Journal on Applied Mathematics, 1979, 37, 107-123.	1.8	11