Matthew P Juniper

List of Publications by Year in Descending Order

87 papers	2,562 citations	31 h-index	48 g-index
100 ext. papers	3,178 ext. citations	3.6 avg, IF	5.88 L-index

#	Paper	IF	Citations
87	Bayesian Machine Learning for the Prognosis of Combustion Instabilities From Noise. *Journal of Engineering for Gas Turbines and Power*, **2021**, 143,	1.7	5
86	Early detection of thermoacoustic instabilities in a cryogenic rocket thrust chamber using combustion noise features and machine learning. *Chaos*, **2021**, 31, 063128	3.3	4
85	Assimilation of Experimental Data to Create a Quantitatively Accurate Reduced-Order Thermoacoustic Model. *Journal of Engineering for Gas Turbines and Power*, **2021**, 143,	1.7	2
84	A data-driven kinematic model of a ducted premixed flame. *Proceedings of the Combustion Institute*, **2021**, 38, 6231-6239	5.9	4
83	High Fidelity Model for Self-sustained Oscillations in Heated Jets **2020**,		1
82	Thermoacoustic stabilization of a longitudinal combustor using adjoint methods. *Physical Review Fluids*, **2020**, 5,	2.8	4
81	Sensitivity of the Rayleigh criterion in thermoacoustics. *Journal of Fluid Mechanics*, **2020**, 882,	3.7	8
80	Shape sensitivity of eigenvalues in hydrodynamic stability, with physical interpretation for the flow around a cylinder. *European Journal of Mechanics, B/Fluids*, **2020**, 80, 80-91	2.4	1
79	Flow Simulations Including Iron Nanoparticle Nucleation, Growth and Evaporation for Floating Catalyst CNT Production. *Catalysts*, **2020**, 10, 1383	4	1
78	Propagation speed of inertial waves in cylindrical swirling flows. *Journal of Fluid Mechanics*, **2019**, 879, 85-120	3.7	6
77	Combined state and parameter estimation in level-set methods. *Journal of Computational Physics*, **2019**, 399, 108950	4.1	5
76	Adjoint-based shape optimization of the microchannels in an inkjet printhead. *Journal of Fluid Mechanics*, **2019**, 871, 113-138	3.7	3
75	Data Assimilation and Optimal Calibration in Nonlinear Models of Flame Dynamics. *Journal of Engineering for Gas Turbines and Power*, **2019**, 141,	1.7	6
74	Forced synchronization of periodic and aperiodic thermoacoustic oscillations: lock-in, bifurcations and open-loop control. *Journal of Fluid Mechanics*, **2018**, 838, 690-714	3.7	37
73	Sensitivity and Nonlinearity of Thermoacoustic Oscillations. *Annual Review of Fluid Mechanics*, **2018**, 50, 661-689	22	120
72	The effect of the flame phase on thermoacoustic instabilities. *Combustion and Flame*, **2018**, 187, 165-184	5.3	26
71	Sensitivity analysis of thermoacoustic instability with adjoint Helmholtz solvers. *Physical Review Fluids*, **2018**, 3,	2.8	9

70	Adjoint Methods for Elimination of Thermoacoustic Oscillations in a Model Annular Combustor via Small Geometry Modifications **2018**,		2
69	Passive control of global instability in low-density jets. *European Journal of Mechanics, B/Fluids*, **2018**, 72, 311-319	2.4	4
68	Multiple-scale thermo-acoustic stability analysis of a coaxial jet combustor. *Proceedings of the Combustion Institute*, **2017**, 36, 3863-3871	5.9	8
67	Adjoint-based sensitivity analysis of low-order thermoacoustic networks using a wave-based approach. *Journal of Computational Physics*, **2017**, 341, 163-181	4.1	11
66	G-equation modelling of thermoacoustic oscillations of partially premixed flames. *International Journal of Spray and Combustion Dynamics*, **2017**, 9, 260-276	1.3	11
65	Experimental sensitivity analysis of a linearly stable thermoacoustic system via a pulsed forcing technique. *Experiments in Fluids*, **2017**, 58, 1	2.5	3
64	Experimental Sensitivity Analysis and the Equivalence of Pulsed Forcing and Feedback Control in Thermoacoustic Systems **2017**,		1
63	Experimental sensitivity analysis via a secondary heat source in an oscillating thermoacoustic system. *International Journal of Spray and Combustion Dynamics*, **2017**, 9, 230-240	1.3	9
62	Stability analysis of thermo-acoustic nonlinear eigenproblems in annular combustors. Part II. Uncertainty quantification. *Journal of Computational Physics*, **2016**, 325, 411-421	4.1	25
61	Non-normality and nonlinearity in thermoacoustic instabilities. *International Journal of Spray and Combustion Dynamics*, **2016**, 8, 119-146	1.3	32
60	Nonlinear hydrodynamic and thermoacoustic oscillations of a bluff-body stabilised turbulent premixed flame. *Combustion Theory and Modelling*, **2016**, 20, 131-153	1.5	21
59	Linear stability and adjoint sensitivity analysis of thermoacoustic networks with premixed flames. *Combustion and Flame*, **2016**, 165, 97-108	5.3	17
58	Flame Double Input Describing Function analysis. *Combustion and Flame*, **2016**, 171, 87-102	5.3	18
57	Local stability analysis and eigenvalue sensitivity of reacting bluff-body wakes. *Journal of Fluid Mechanics*, **2016**, 788, 549-575	3.7	12
56	Weakly nonlinear analysis of thermoacoustic bifurcations in the Rijke tube. *Journal of Fluid Mechanics*, **2016**, 805, 523-550	3.7	21
55	Weakly nonlinear analysis of thermoacoustic instabilities in annular combustors. *Journal of Fluid Mechanics*, **2016**, 805, 52-87	3.7	34
54	Experimental sensitivity analysis and control of thermoacoustic systems. *Journal of Fluid Mechanics*, **2016**, 787,	3.7	24
53	Coherent structures in a swirl injector at Re = 4800 by nonlinear simulations and linear global modes. *Journal of Fluid Mechanics*, **2016**, 792, 620-657	3.7	67

52	Stability analysis of thermo-acoustic nonlinear eigenproblems in annular combustors. Part I. Sensitivity. *Journal of Computational Physics*, **2016**, 325, 395-410	4.1	19
51	State-space realization of a describing function. *Nonlinear Dynamics*, **2015**, 82, 9-28	5	9
50	Nonlinear dynamics of a self-excited thermoacoustic system subjected to acoustic forcing. *Proceedings of the Combustion Institute*, **2015**, 35, 3229-3236	5.9	73
49	The structural sensitivity of open shear flows calculated with a local stability analysis. *European Journal of Mechanics, B/Fluids*, **2015**, 49, 426-437	2.4	20
48	Frequency domain and time domain analysis of thermoacoustic oscillations with wave-based acoustics. *Journal of Fluid Mechanics*, **2015**, 775, 387-414	3.7	31
47	Self-sustained hydrodynamic oscillations in lifted jet diffusion flames: origin and control. *Journal of Fluid Mechanics*, **2015**, 775, 201-222	3.7	17
46	Adjoint Sensitivity Analysis of Hydrodynamic Stability in a Gas Turbine Fuel Injector **2015**,		1
45	Stability Criteria for Standing and Spinning Waves in Annular Combustors **2015**,		5
44	Global modes, receptivity, and sensitivity analysis of diffusion flames coupled with duct acoustics. *Journal of Fluid Mechanics*, **2014**, 752, 237-265	3.7	29
43	The planar X-junction flow: stability analysis and control. *Journal of Fluid Mechanics*, **2014**, 753, 1-28	3.7	37
42	Second-order perturbation of global modes and implications for spanwise wavy actuation. *Journal of Fluid Mechanics*, **2014**, 755, 314-335	3.7	23
41	The planar X-junction flow: stability analysis and control □CORRIGENDUM. *Journal of Fluid Mechanics*, **2014**, 753, 560-560	3.7	
40	Nonlinear self-excited thermoacoustic oscillations of a ducted premixed flame: bifurcations and routes to chaos. *Journal of Fluid Mechanics*, **2014**, 761, 399-430	3.7	83
39	Modal Stability Theory. *Applied Mechanics Reviews*, **2014**, 66,	8.6	34
38	Matrix-free continuation of limit cycles and their bifurcations for a ducted premixed flame. *Journal of Fluid Mechanics*, **2014**, 759, 1-27	3.7	21
37	Adjoint-Based Linear Analysis in Reduced-Order Thermo-Acoustic Models. *International Journal of Spray and Combustion Dynamics*, **2014**, 6, 225-246	1.3	16
36	Nonlinear Phenomena in Thermoacoustic Systems With Premixed Flames. *Journal of Engineering for Gas Turbines and Power*, **2013**, 135,	1.7	23
35	Finding thermoacoustic limit cycles for a ducted Burke-Schumann flame. *Proceedings of the Combustion Institute*, **2013**, 34, 911-920	5.9	17

34	Lock-in and quasiperiodicity in hydrodynamically self-excited flames: Experiments and modelling. *Proceedings of the Combustion Institute*, **2013**, 34, 947-954	5.9	58
33	Nonlinear thermoacoustics of ducted premixed flames: The influence of perturbation convection speed. *Combustion and Flame*, **2013**, 160, 2856-2865	5.3	41
32	Sensitivity analysis of a time-delayed thermo-acoustic system via an adjoint-based approach. *Journal of Fluid Mechanics*, **2013**, 719, 183-202	3.7	56
31	Structural sensitivity of spiral vortex breakdown. *Journal of Fluid Mechanics*, **2013**, 720, 558-581	3.7	55
30	Matrix-free continuation of limit cycles for bifurcation analysis of large thermoacoustic systems. *Journal of Computational Physics*, **2013**, 240, 225-247	4.1	22
29	A Theoretical Approach for Passive Control of Thermoacoustic Oscillations: Application to Ducted Flames. *Journal of Engineering for Gas Turbines and Power*, **2013**, 135,	1.7	8
28	Azimuthal instabilities in annular combustors: standing and spinning modes. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2013**, 469, 20130232	2.4	59
27	Lock-in and quasiperiodicity in a forced hydrodynamically self-excited jet. *Journal of Fluid Mechanics* , **2013**, 726, 624-655	3.7	48
26	The two classes of primary modal instability in laminar separation bubbles. *Journal of Fluid Mechanics*, **2013**, 734,	3.7	33
25	Phase trapping and slipping in a forced hydrodynamically self-excited jet. *Journal of Fluid Mechanics* , **2013**, 735,	3.7	41
24	Adjoint algorithms for the Navier–Stokes equations in the low Mach number limit. *Journal of Computational Physics*, **2012**, 231, 1900-1916	4.1	36
23	Density ratio effects on reacting bluff-body flow field characteristics. *Journal of Fluid Mechanics*, **2012**, 706, 219-250	3.7	85
22	Triggering in Thermoacoustics. *International Journal of Spray and Combustion Dynamics*, **2012**, 4, 217-237	1.3	15
21	A theoretical approach to the passive control of spiral vortex breakdown **2012**,		1
20	Obtaining Bifurcation Diagrams With a Thermoacoustic Network Model **2012**,		7
19	Absolute and Convective Instability in Gas Turbine Fuel Injectors **2012**,		9
18	Transient Growth and Triggering in the Horizontal Rijke Tube. *International Journal of Spray and Combustion Dynamics*, **2011**, 3, 209-223	1.3	8
17	Triggering in a Thermoacoustic System with Stochastic Noise. *International Journal of Spray and Combustion Dynamics*, **2011**, 3, 225-241	1.3	42

16	The local and global stability of confined planar wakes at intermediate Reynolds number. *Journal of Fluid Mechanics*, **2011**, 686, 218-238	3.7	47
15	Triggering in the horizontal Rijke tube: non-normality, transient growth and bypass transition. *Journal of Fluid Mechanics*, **2011**, 667, 272-308	3.7	137
14	Applications of the dynamic mode decomposition. *Theoretical and Computational Fluid Dynamics*, **2011**, 25, 249-259	2.3	278
13	The effect of confinement on the stability of viscous planar jets and wakes. *Journal of Fluid Mechanics*, **2010**, 656, 309-336	3.7	39
12	Artificial limbs can enable artificially fast running. *Journal of Applied Physiology*, **2010**, 108, 1016; author reply 1019-20	3.7	5
11	Bypass Transition to Sustained Thermoacoustic Oscillations in a Linearly Stable Rijke Tube **2010**,		1
10	Forcing of self-excited round jet diffusion flames. *Proceedings of the Combustion Institute*, **2009**, 32, 1191-1198	5.1	39
9	The effect of surface tension on the stability of unconfined and confined planar jets and wakes. *Journal of Fluid Mechanics*, **2009**, 633, 71-97	3.7	21
8	The effect of confinement on the stability of non-swirling round jet/wake flows. *Journal of Fluid Mechanics*, **2008**, 605, 227-252	3.7	31
7	The full impulse response of two-dimensional jet/wake flows and implications for confinement. *Journal of Fluid Mechanics*, **2007**, 590, 163-185	3.7	32
6	STRUCTURE AND DYNAMICS OF CRYOGENIC FLAMES AT SUPERCRITICAL PRESSURE. *Combustion Science and Technology*, **2006**, 178, 161-192	1.5	107
5	The effect of confinement on the stability of two-dimensional shear flows. *Journal of Fluid Mechanics*, **2006**, 565, 171	3.7	67
4	Edge Diffusion Flame Stabilization Behind a Step over a Liquid Reactant. *Journal of Propulsion and Power*, **2003**, 19, 332-341	1.8	22
3	The effect of damköhler number on the stand-off distance of cross-flow flames. *Combustion Theory and Modelling*, **2003**, 7, 563-577	1.5	4
2	The extinction limits of a hydrogen counterflow diffusion flame above liquid oxygen. *Combustion and Flame*, **2003**, 135, 87-96	5.3	26
1	The stability of ducted compound flows and consequences for the geometry of coaxial injectors. *Journal of Fluid Mechanics*, **2003**, 482, 257-269	3.7	56